

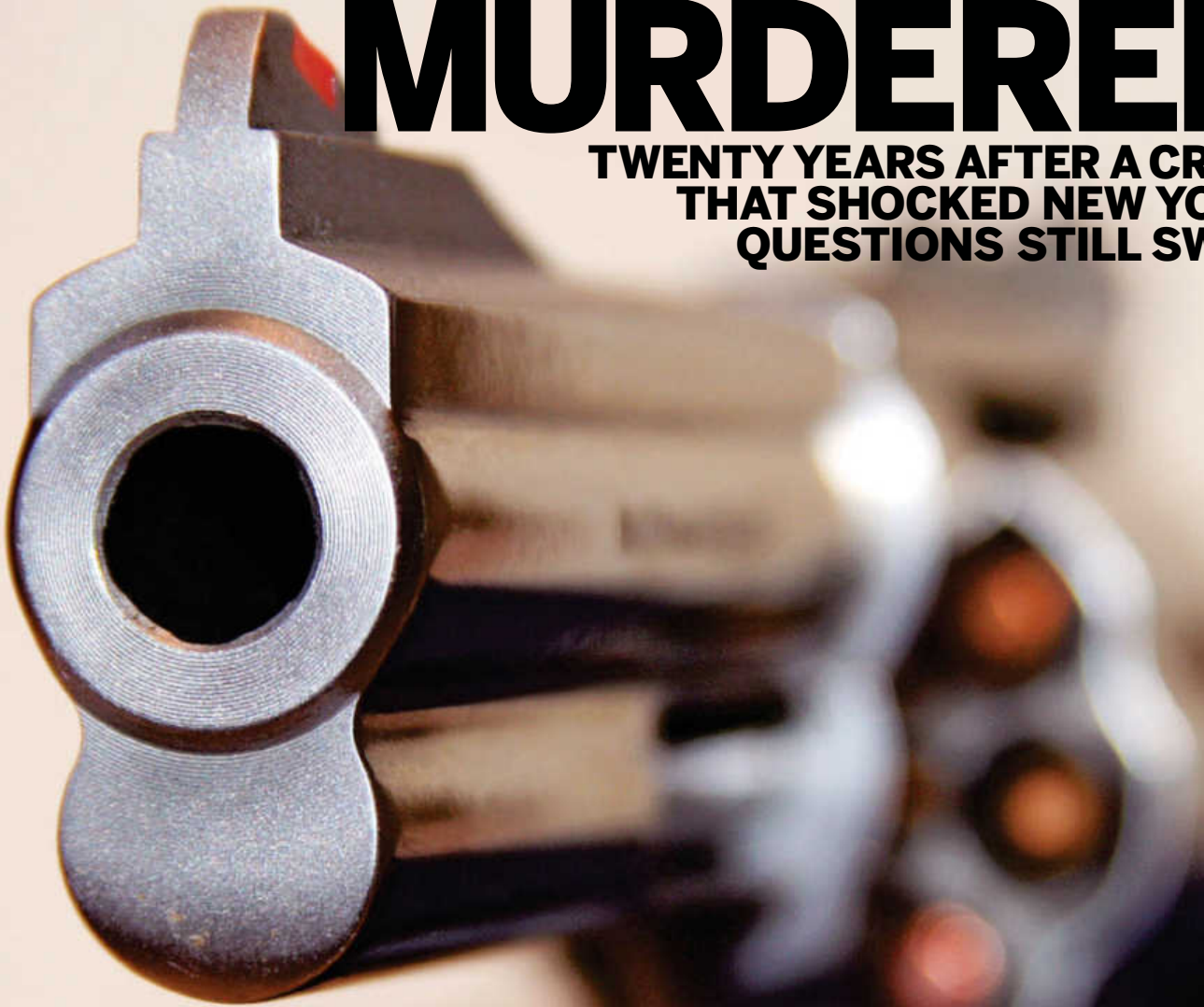
DDT vs. Zika / Is Bernie Sanders a Hawk?

Newsweek®

02.19.2016

UNMAKING A MURDERER

**TWENTY YEARS AFTER A CRIME
THAT SHOCKED NEW YORK,
QUESTIONS STILL SWIRL**



Newsweek

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ROCKED BY RAPE: Soldiers spot a suspected Boko Haram fighter's body in Nigeria. Over 2,000 women and girls have been kidnapped by the militants, and many have been sexually abused, Amnesty International said.

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An unlikely friendship between a teacher and a troubled young man may have crossed lines that shouldn't be crossed and destroyed two lives. One of those men is dead, and the other is buried in prison for his murder, a heinous crime for which he says he's responsible...but didn't commit.

by Alexander Nazaryan

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BIG SHOTS

SYRIA

No Looking Back

Bab al-Salam, Syria—Syrians wait for permission to cross a closed Turkish border on February 6. According to the Syrian Observatory for Human Rights, about 40,000 Syrians have fled a Russian-backed offensive on Aleppo that threatens to create a new humanitarian disaster. The combined forces of Russia, Iran and Syrian President Bashar al-Assad's regime appear to have shifted the balance on the battlefield, with government forces and allies closing in on the city's rebel-held eastern half. Peace talks in Geneva were put on hold February 3 as the assault escalated. Whether they will restart February 25, as announced, is unclear.



BULENT KILIC

GREECE

Crippled Economy

Athens, Greece—Prosthetic legs lean against a wall on February 4, beneath a banner reading “Movement for emancipation of people with special needs,” during a 24-hour general strike in Greece against planned pension reforms.

Isolated clashes between police and protesters erupted as about 50,000 people marched on the parliament to demand an end to austerity measures. The demonstrators insisted that the government reject plans to cut costs in order to repay debt owed to international creditors. The backlash is putting pressure on Prime Minister Alexis Tsipras, whose left-wing Syriza party has only a three-seat parliamentary majority.



MICHALIS KARAGIANNIS



Κίνηση
αφέντησης
Α.με.Α





SOUTH KOREA

**Fun With
Missiles**

Seoul, South Korea—A couple pose in front of a display of model missiles, including a North Korean Scud-B, at the War Memorial of Korea on February 7, the same day North Korea launched a long-range rocket carrying a satellite. Pyongyang said the launch was for scientific and “peaceful purposes,” but other nations saw it as part of a program to develop intercontinental ballistic missiles, which are banned by multiple U.N. Security Council resolutions. South Korea, the United States and Japan called for an emergency meeting of the council in response to the launch.



HAN MYUNG-GU



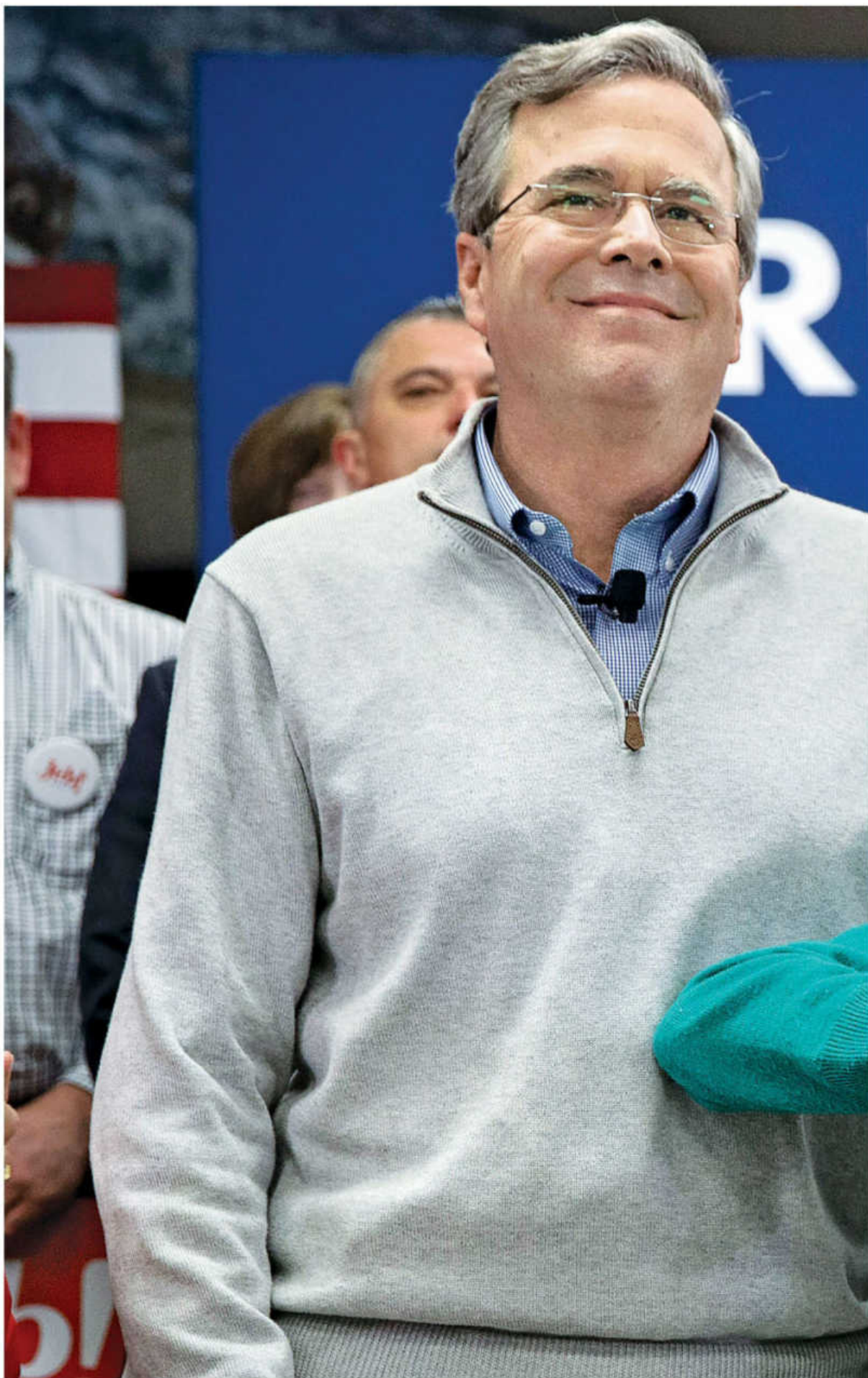
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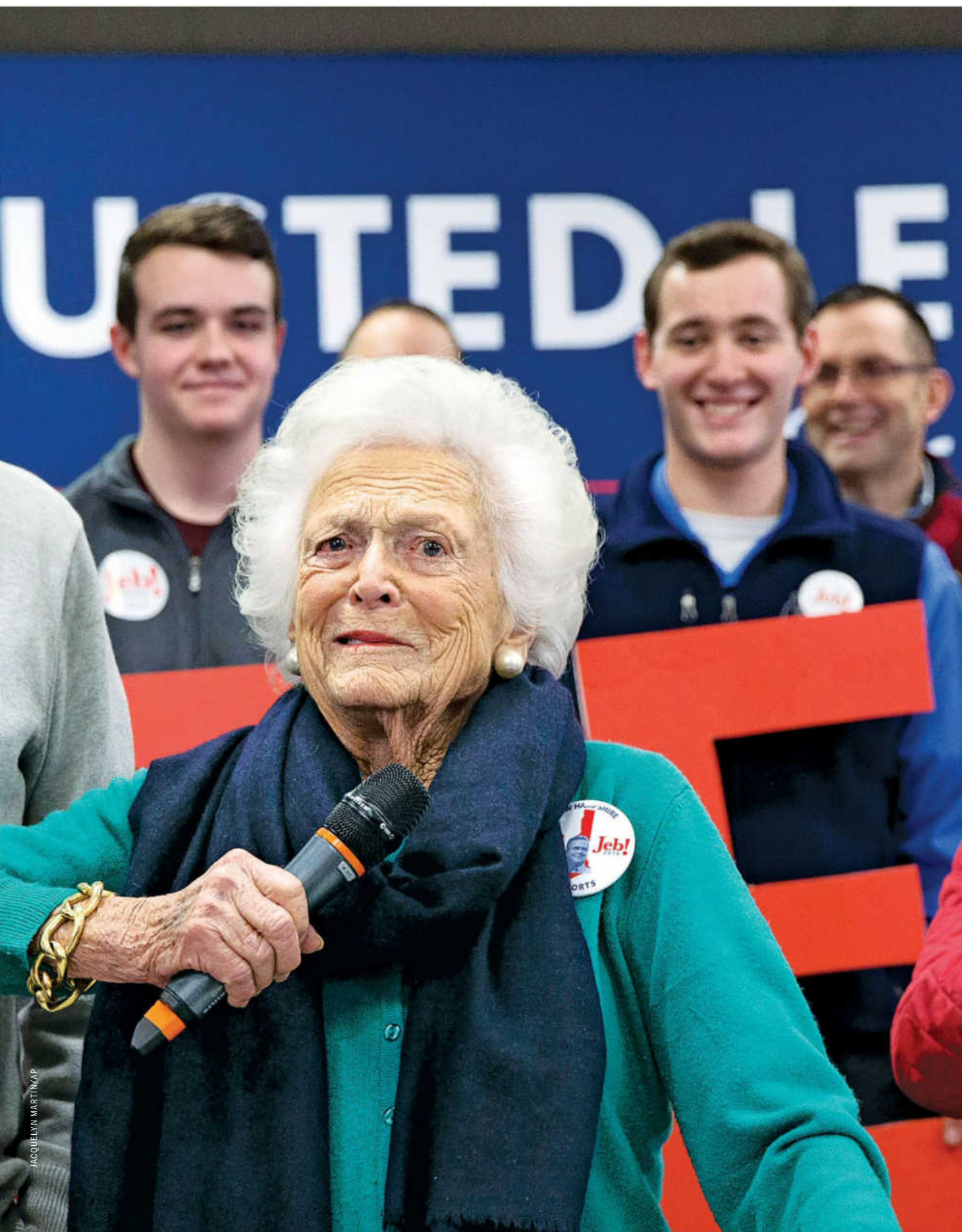
Mom!

Derry, New Hampshire—Barbara Bush ribs her son, Jeb Bush, while introducing him at a town hall meeting at West Running Brook Middle School on February 4. Once considered the GOP candidate to beat, Bush placed sixth with 2.8 percent of the vote in the Iowa caucuses. With his campaign's future in question, Bush abandoned his efforts to project himself as a political outsider and embraced his family's White House legacy, getting his brother (the former president) and mother (the former first lady) to stump for him.



JACQUELYN MARTIN







P A G E O N E

POLITICS

NIGERIA

HEALTH

FOREIGN POLICY

EGYPT

REFUGEES

BOKO HARAM'S WAR ON WOMEN

The Nigerian Islamist group abducts and rapes women to boost recruitment and demonstrate its domination

"THEY HAVE a look in their eyes—they look like they are possessed," says Amira, who was held captive by Boko Haram fighters for several years. "They would even drink the blood of the people they killed," she adds, using her hands to tip an imaginary bowl of blood to her mouth.

Amira is in her mid-50s, and the signs of a life of hard agricultural labor show across her face and hands. (She asked *Newsweek* to identify her only by the pseudonym Amira because she fears reprisals.) Leaning forward in her plastic lawn chair in the modest administrative office of a camp for internally displaced people, she describes how the young fighters of Boko Haram ransack communities, rape young women and kill on a scale unseen in Nigeria since the country's civil war in the 1960s.

Around three years ago, Amira fled from Michika, a town in northern Adamawa State. The area is one of the hardest hit by the Islamist insurgency, which has killed more than 30,000 people and displaced an estimated 2.2 million

in just over six years. Fleeing at night, families were scattered, separated as they ran for their lives. Amira lost track of her three children, and she fears at least one was killed that night. She had already lost her husband to Boko Haram.

When she came across a group of men in uniforms in the forest, she assumed they were the military. "I trusted them when they told me to follow them." She soon realized they were not soldiers. "They tried to take my things, and I refused," Amira says. "One man hit me, so I struck him across his face. He hit me on my head—look, you can still see the scar a bit," she says, pulling off her head wrap and spreading her braids to show the faded scar on her scalp. "One of the lookouts saw them hit me and came down from his post to tell them to stop. He even applied ointment to my hair to help the bleeding. The men who tried to rob me then took him away and killed him. They made me watch them kill him."

Amira also watched helplessly as her younger brother, who refused to join Boko Haram when

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BRYAN ANSELMI FOR NEWSWEEK



EXILED: Boko Haram has driven more than 2 million people from their homes, including this woman who fled Gwoza after the militants invaded the town.

he was captured, “was hacked to death.” She spent the next few years as a captive, forced to run errands for the insurgents and maintain their camps, while being shuttled across the country as the fighters fled the military and terrorized communities in northeast Nigeria. She saw hundreds of people hacked to death as Boko Haram raided villages across northeast Nigeria.

Amira is one of the thousands of women who have been abducted by Boko Haram. She says she was “too old to be a wife,” but most of the other abducted women were handed over to fighters as so-called wives and raped repeatedly. The group has also used girls and women as suicide bombers in more than 90 instances. No other insurgency in history has relied upon women and girls in such an abusive and predatory manner, so systematically, as Mia Bloom and I report in a forthcoming paper for the Center for Complex Operations online journal Prism. Although Nigerian President Muhammadu Buhari declared in December that Boko Haram had been “technically” defeated, it will take many years for survivors like Amira to return to any kind of normal life.

For some men in Boko Haram, participation in the insurgency is “mostly about power and access to women,” says Kyari Mohammed, the head of the Peace and Security Center at Modibbo Adama University of Technology in Yola. “You can take anyone’s woman, and she is yours,” he says, adding that in a region with few economic opportunities that would allow a young man to court and maintain a wife, access to women has particularly strong appeal. One man who lived in an area under the control of Boko Haram for a few months suggests that 60 percent of the “total Boko Haram population is female,” observing that many of the foot soldiers have multiple wives. Another man recounts how Boko Haram raided homes in his community, kidnapping women and “tossing 5,000 naira [about \$25] on the floor as a bride price.”

Amnesty International estimated last year that the militants had abducted at least 2,000 women and girls, but the real number may be much higher. The U.N. secretary-general’s special representative on sexual violence, Zainab Hawa Bangura, said last year Boko Haram’s sexual violence was “not merely incidental, but integral, to their strategy of domination and self-perpetuation.”

Human Rights Watch recorded the account of a girl abducted for a month in 2013 who told researchers, “After we were declared married, I was ordered to live in his cave, but I always managed to avoid him. He soon began to threaten me with a knife to have sex with him, and when I still refused he brought out his gun, warning that he



+ FIGHTING BACK: Chadian soldiers drive past a black Boko Haram flag in the city of Damasak, Chad, Niger and Cameroon have contributed forces to help fight the militants.

would kill me if I shouted. Then he began to rape me every night. He was a huge man in his mid-30s, and I had never had sex before. It was very painful, and I cried bitterly because I was bleeding afterwards.” The girl was just 15 at the time. According to Human Rights Watch, some reports have emerged that militants pray before raping women and girls, believing that any children born out of these unions will continue the jihad. The women who carry these children to term face violence and ostracism from their communities.

According to Amira, captive women are forced to cover themselves up and observe an extreme version of the Islamic notion of isolation, or *pardah*. Amira, who is Muslim, recalls that all of the abducted women were forced to learn at least a few lines of the Koran. Shortly after her abduction, Amira recalls, the insurgents “made us all recite the Muslim articles of faith,” and killed some of those who were unable to do so.

FROM ABUSED TO ABUSER

SOME OF the women captured by Boko Haram take up arms. According to Amira, captives are often disciplined by young women known as Chibok girls. The name refers to the kidnapping of more than 200 schoolgirls from the town of Chibok by Boko Haram nearly two years ago. The BBC reported in 2015 that during assaults on vil-



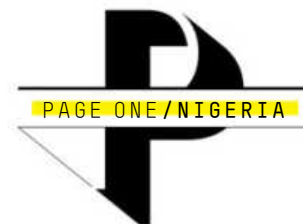
lages “people were tied and laid down, and the girls took it from there.... The Chibok girls slit their throats.” There is no proof these girls were indeed the schoolgirls abducted from Chibok, but by purporting to have turned the Chibok schoolgirls into cold-blooded killers, Boko Haram is furthering its campaign of psychological terror. Amira says the so-called Chibok girls in the insurgents’ camps “were trained as soldiers and given guns.... If you were stubborn and refused them, they can kill you,” she says. Asked if she ever saw Chibok girls kill anyone, she gives an emphatic nod.

According to reports of those who escaped from Boko Haram, many of the abducted women have been subjected to indoctrination and forced to take part in acts of extreme violence. One soldier I met in a transit camp for internally displaced people said cavalierly, “There are female fighters in Boko Haram; there are fighters with weapons and plenty of suicide bombers.” Boko Haram’s use of female suicide bombers is unprecedented in its scale. Sri Lanka’s Tamil Tigers, known for using female attackers, conducted 46 suicide bombings led by women over a decade in the ’90s. Boko Haram has conducted more than 90 such attacks in a little over a year and a half, largely against soft targets, such as markets. When asked if she saw any young girls being used as suicide bombers, Amira merely nods, uncharacteristically quiet. While it is possible that some of the female fighters in Boko Haram have joined of their own volition, the majority of reported female suicide bombers are described as young girls who, like other child soldiers, would be considered as much victims as perpetrators. One man in Yola waved his hand in the air, insisting, “They are too young! You know they are just girls. They don’t know what they are doing.”

Amira estimates that Boko Haram held her for several years, though it was difficult for her to keep track of time. Escape was her constant goal, but the punishment for trying to flee was death.

The moment she’d been waiting for finally came last year. Amira heard the sounds of Nigerian security forces nearby and was able to run to a clearing in the forest and flag down the soldiers. Leaping from her chair, she waves her arms wildly to demonstrate how she flagged down her rescuers. Today, she lives in a camp for internally displaced people in Yola, where women outnumber men by a large margin.

Women and children dominate the camps, bustling between tents, tending the communal kitchen or just sprawling beneath trees in the camp



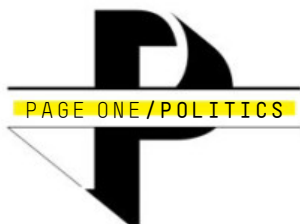
courtyards. Women are often responsible for providing support to orphaned children; at another camp for displaced people in Mubi, in northern Adamawa, a woman sitting outside a small tent with two infants in her lap tells me that only one of the children is hers. “As we were fleeing Boko Haram, I saw a mother drop her child,” she says. “I picked her up, and I now take care of them both.”

If they want to return home, women like Amira face myriad challenges. Their homes may have been looted or burned to the ground, either by Boko Haram or by the Nigerian military in an attempt to prevent looting. The vast majority of the women were subsistence farmers prior to fleeing; for the many who are now widowed, the job of preparing, planting and harvesting their fields will be hard. Even worse, there are emerging reports of women being denied access to land and being

AMIRA WATCHED HELPLESSLY AS HER YOUNGER BROTHER “WAS HACKED TO DEATH.”

rejected from their communities because they are widows. Rejection is all the more common for women who have been forcibly impregnated by Boko Haram fighters or whose family members are thought to be sympathetic to, or a part of, the insurgency. Land in Nigeria is subject to conflicting, overlapping tenure systems, including in some parts of the country Sharia law, creating a legal morass with no recourse for women.

For now, Amira is just happy to see people who are not trying to rape or kill her. Notices plastered around the offices remind humanitarian workers at the camp of the importance of combating the stigma of association with Boko Haram by listening to the stories of those who survived and bearing witness to what they endured. Amira doesn’t know what is next for her. She’s not sure if she wants to go home to Michika as a widow, with no way to make a living. One thing she is sure of: “I want to find my children.” ■



PSST! WANNA KNOW A (NOT) SECRET?

Hillary Clinton and Colin Powell had classified documents in their email accounts. It's not a scandal. It's not even important

THE SHOCKING truth about the last two Republican secretaries of state has finally come out: Colin Powell and aides to Condoleezza Rice trafficked in classified information on their personal email accounts. This is an enormous scandal!

Oh, wait. No, it's not.

This news involving Powell and Rice is meaningless except that it sets up a rational conversation (finally) about the Hillary Clinton bogus "email-gate" imbroglio. Perhaps the partisans on each side will now be more willing to listen to the facts. From the beginning, the "scandal" about Clinton using a personal email account when she was secretary of state—including the finding that a few documents on it were retroactively deemed classified—has been a big nothing-burger perpetuated for partisan purposes, with reports spooned out by Republicans attempting to deceive or acting out of ignorance. Conservative commentators have raged, presidential candidates have fallen over themselves in apoplectic babbling, and some politicians have proclaimed that Clinton should be in jail for mishandling classified information. The nonsense has been never-ending, and attempts to cut through the duplicity have been fruitless.

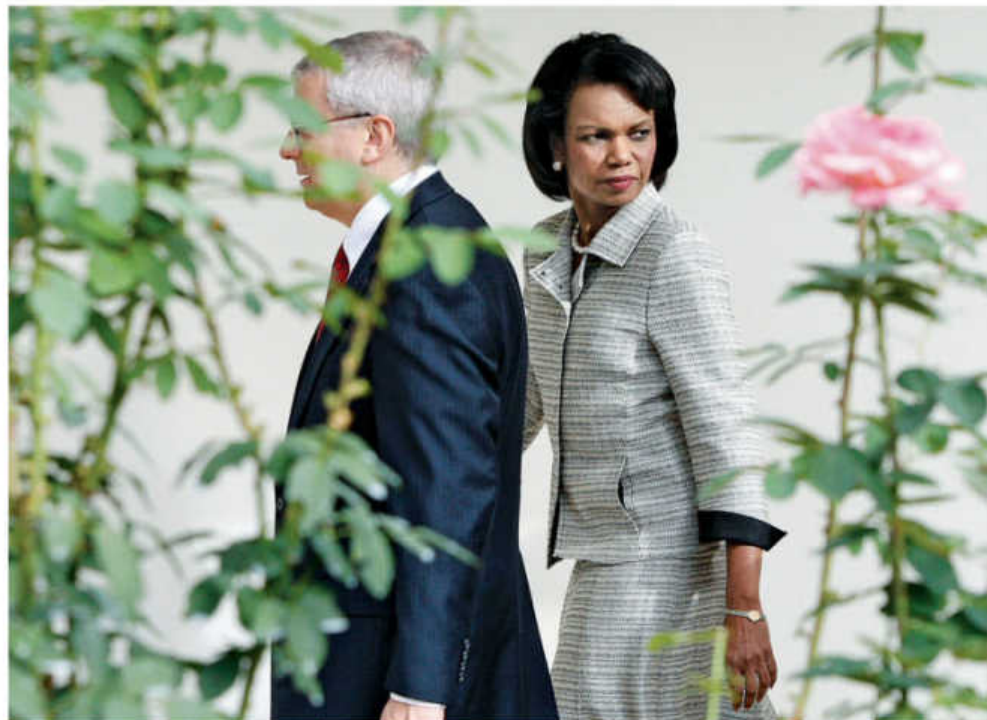
But Powell and Rice's aides did nothing wrong. (I'll focus on them so partisans who say Clinton

broke the law have to attack respected Republicans as well.) Start with this: Powell and Rice, like all modern secretaries of state, had at least two email accounts—one personal and one for communications designated as highly classified. For classified information, both of them—and aides with appropriate clearance—had a sensitive compartmented information facility, or SCIF. Most senior officials who deal with classified information have a SCIF in their offices and their homes.

These are not just extra offices with a special lock. Each SCIF is constructed following complex rules imposed by the intelligence and defense communities to ensure that no unauthorized personnel can get into the room, and the SCIF cannot be accessed by hacking or electronic eavesdropping. A technical surveillance countermeasures team (TSCM) investigates the area or activity to check that all communications are protected from outside surveillance and cannot be intercepted.

Most permanent SCIFs have physical and technical security, called TEMPEST. The facility is guarded and operational 24 hours a day, seven days a week; any official on the SCIF staff must have the highest security clearance. There is supposed to be sufficient personnel continuously present to observe the primary, secondary

BY
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NO FAIR LOOKING BACK: Clinton, Powell and Rice's aides didn't break the law regarding the handling of information that wasn't deemed classified at the time it was sent.

and emergency exit doors of the SCIF. Each SCIF must apply fundamental red-black separation to prevent the inadvertent transmission of classified data over telephone, power or signal lines.

I could keep going for thousands of words explaining the extraordinary security measures used for SCIFs. And all of this is to protect the confidentiality of emails and communications determined to be classified at the time of transmission.

In addition to the classified email system used in SCIFs, there are personal email accounts. Prior to 2013, these could be accounts inside the relatively unsecure State Department system or private email accounts. If they are private—running through a commercial or personal server—they have to follow some rules set up in the Federal Register. There are no guards, no red-black procedures, no construction rules, no special rooms, no TEMPEST, no TSCM. And most important: Until 2013, there was no rule against using them. In fact, the rules specifically allowed for them. Check out the relevant section in the Code of Federal Regulations (36 CFR Chapter XII, Subchapter B, section 1236.22b) for the rules regarding the use of personal email accounts by any State Department official.

To give an idea of how insecure these communications could be, Powell's personal email was an AOL account, and he used it on a laptop to communicate with foreign officials and ambassadors, unless the information qualified for a SCIF. (Clinton sent only one email to a foreign dignitary through her personal account, and her communications with ambassadors

were, for the most part, by phone.)

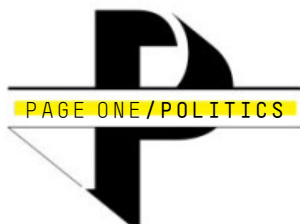
So did Powell and the aides to Rice violate rules governing classified information, since the Freedom of Information Act (FOIA) staff has recently determined that some of their years-old personal emails contain top-secret material? No. The rules regarding the handling of classified information apply to communications designated as secret at that time. If documents that aren't deemed classified, and aren't handled through a SCIF when they are created or initially transmitted, are later, in retrospect, deemed secret, the classification is new—and however the record was handled in the past is irrelevant.

There is also an enormous difference between a secretary of state sending an email to someone inside the department and that same email

being released to the public. Put simply, as anyone who has filed a Freedom of Information Act request knows, not every email or other item can be handed out, even if it was not originally deemed to be so confidential that it required SCIF procedures. The determination of what State Department documents can be publicly released is handled by the FOIA staff, both in the State

PEOPLE OUTRAGED BY THE (FALSE) BELIEF THAT POWELL AND RICE'S AIDES BROKE THE LAW ARE CREATING A FANTASY WORLD.

Department and, when appropriate, by officials with the same duties in the intelligence community. In fact, the entire issue right now regarding the emails of every secretary of state concerns which ones can be released under the FOIA. People outraged by the (false) belief that Powell and Rice's aides broke the law are creating a fantasy world where every official email, no matter its content, must go through a SCIF in case the FOIA staff determines, sometime in the future and by applying different standards, that the information



in the email should not be released to the public under a FOIA request out of classification concerns. Given the cumbersome procedures of using a SCIF, that would mean the secretary of state would have to spend a lot of time sitting inside a locked box sending emails not yet designated as containing secret information, solely to avoid the partisan gnashing of teeth if the FOIA staff were to retroactively decide they should not be released to the public because of classification concerns.

Which brings us to the next most important issue here: classification. Members of Congress should—and probably do—know this, but the public apparently doesn't. Just because the FOIA staff decides a document is top secret doesn't mean it contains information of any import. (It's widely known that, even in the creation of a document, the government over-classifies information, meaning communications are deemed secret that don't need to be, but that's another issue.) The FOIA staff is supposed to be extra-cautious when releasing a document to the public. As I mentioned in a previous column, that is why anyone wanting to obtain a document should file multiple FOIA requests for the information—one staffer might deem something secret that another staffer releases without concern. In fact, if someone were to submit a FOIA request for every email in the State Department that has been sent over a system without the extreme protections reserved for information determined to be top secret on creation, there is no doubt that the FOIA staff would call many of the emails classified and refuse the request.

Plus, both Powell and Rice had the authority, granted by President George W. Bush through executive order, to classify and declassify any document created by the State Department. So if either of them had received an email from another agency containing information that had not gone through a SCIF, he or she could have independently declared that it did not need to be secret and sent it along to anyone they chose.

In other words, just because the FOIA staff years later labeled emails sent from Powell and

Rice's aides as classified does not mean those records contain some crown jewels of critical intelligence. In fact, usually they are quite benign. I have seen emails called "top secret" that contained nothing more than a forwarded news article that had been published. (The Associated Press has reported that one of Clinton's "secret" emails contains an AP article.)

Then there is the issue of servers. Where did Powell and Rice's staff have their servers? Who knows, and who cares? Maybe they were private with special security and no public access. Or maybe they were just an AOL server. Whichever it was, they would be just as open to hacking as the State Department servers. In fact, the State Department general email system has been hacked multiple times, with terabytes of information improperly downloaded in 2006 alone. There has been no indication that the email accounts of either Powell or Rice's staff were compromised.

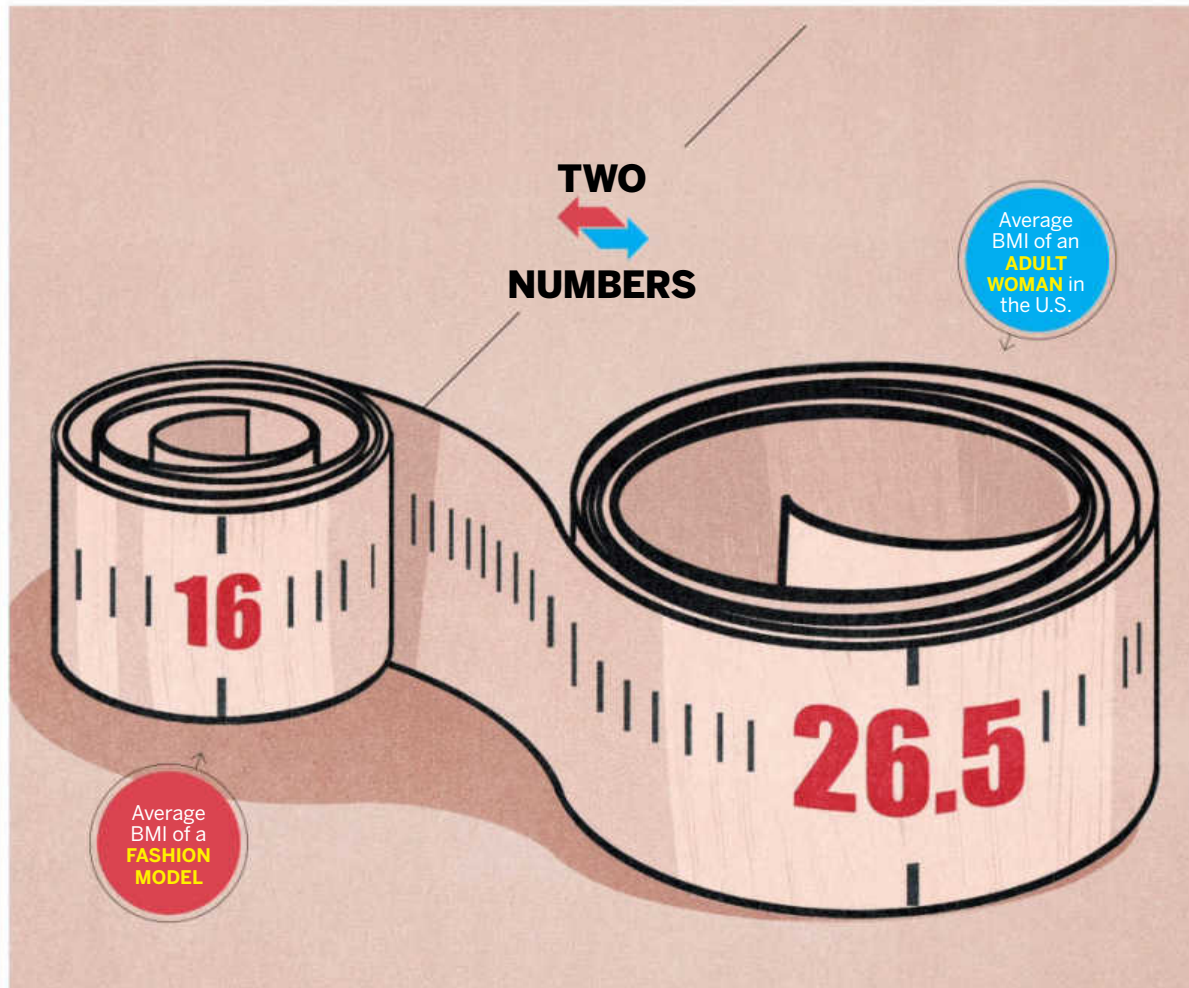
Powell may have made one mistake in all this. He has said he never backed up his emails or printed them out; that was necessary to comply

JUST BECAUSE THE FOIA STAFF DECIDES A DOCUMENT IS TOP SECRET DOESN'T MEAN IT CONTAINS INFORMATION OF ANY IMPORT.

with some of the preservation rules detailed in the Federal Register. Of course, that doesn't mean they can't be recovered, since the FOIA staff is now reviewing his emails.

The bottom line: Democrats may try to turn the revelations about the email accounts used by Powell and Rice's staff into a scandal. They may release press statements condemning the former secretaries of state; they may call for scores of unnecessary congressional hearings; they may go to the press and confidently proclaim that crimes were committed by these honorable Republicans. But it would all be lies. Powell and Rice did nothing wrong. This could be considered a scandal only by ignorant or lying partisans.

So there is no Powell or Rice email scandal. And no doubt, that will infuriate the Republicans who are trying so hard to trick people into believing Clinton committed a crime by doing the exact same thing as her predecessors. ■



Healthy Models? Fat Chance

HIGH FASHION SENDS THE AVERAGE AMERICAN WOMAN RUNNING TO THE FRIDGE

"Nothing tastes as good as skinny feels," supermodel Kate Moss once told a reporter when asked if she had any mottoes she lived by. Her waifish figure marked the start of "heroin chic," fronted by runway models so impossibly thin you wanted to check them into rehab with a couple of sandwiches.

This beauty ideal became de rigueur in the industry; the average runway model has a body mass index (BMI) of 16, which the World Health Organization classifies as severely thin. And for the average young woman, living up to that sort of

expectation is enough to send her into an emotional tailspin and a lifetime battle against her bulge. "We do know from years of psychology and public health research that shame and body dissatisfaction lead to weight gain," says S. Bryn Austin, a professor of social and behavioral sciences at the Harvard T.H. Chan School of Public Health. But, Austin says, we tend to forget the plight of the models. Because most women have curves, the fashion industry tends to employ girls who have barely gone through puberty. Austin says most suffer

"coerced starvation," in an effort to remain employed as living "clothes hangers."

And the idea that models have fast metabolisms is mostly a myth. "There are stories about these young girls who are eating tissues to try to take up space in their stomachs and quell stomach pains," says Austin, who recently published an editorial in the *American Journal of Public Health* calling for the U.S. fashion industry to enforce regulations that would make it illegal to employ runway models with a BMI of less than 18.

In December, France

passed a law to that effect, which also requires a model to show up to work with a doctor's note that certifies she is in good health. Companies and modeling agencies that don't comply can be fined more than \$80,000. Spain, Italy and Israel have similar laws.

But in the U.S., where the average adult woman is a size 14 and has a BMI of 26.5—medically overweight, according to the Centers for Disease Control and Prevention—child labor laws are an afterthought. Vodka soda and tissues, anyone?

BY
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SOURCES: AMERICAN JOURNAL OF PUBLIC HEALTH, CDC

THE LONER

Why Bernie Sanders is happy to fly solo on foreign policy

THE ANNOUNCEMENT should have given Bernie Sanders a thrill. Only hours before the candidate's February 4 debate with Hillary Clinton in New Hampshire, Saudi Arabia said it was ready to send ground troops into Syria as part of a U.S.-led coalition. He might even have claimed some vindication, since he's said for months, as he would that night, that "the key doctrine of the Sanders administration would be...we can't continue to do it alone. We need to work in coalition."

But no. The debate came and went without Sanders (or Clinton) making note of the development. Perhaps the Vermont senator chose not to say anything about the Saudi announcement. Perhaps he didn't know about it. His campaign did not readily respond when *Newsweek* inquired.

Had Sanders made much of the Saudi pledge, however—a nonstarter, according to experts who note that the kingdom has no real expeditionary army and its Yemen offensive has turned into a quagmire—he may well have been drawn into questions about whether he favored putting U.S. boots on the ground in Syria, now that the Saudis said they would come along.

And his answer may have dismayed his idealistic followers. Few probably know that most of the dozen foreign policy professionals he's consulted over the past year come from the Washington "establishment" he so deprecates. Many are national security hawks.

One of them is Ray Takeyh. The Iran-born scholar is one of the foreign policy establishment's leading hawks on Tehran. Takeyh says



it was "kind of commendable" that Sanders, whose outlier campaign was then gaining surprising traction against Clinton, would reach out to him "in a city where people talk only to those they agree with." Sanders, of course,

BY
JEFF STEIN
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ANTI-SOCIAL: Sanders doesn't have the usual coterie of policy advisers who attach themselves to serious national candidates like pilot fish on a whale.



favors the nuclear deal with Iran.

"He told me that when he deals with a complex set of issues, he wants to hear from all perspectives," Takeyh tells *Newsweek*. He says Sanders listened closely, took notes and revealed little or nothing of his views during their talk.

Another pillar of the Washington establishment, Lawrence Korb, a former senior Pentagon official in the Ronald Reagan administration, got the same treatment. Sanders asked for his views on "nuclear modernization, ISIS, defense spending, those kind of issues" and took close notes.

The thing that struck Korb was that there were "just two other people in the room" when they met, neither of whom had a foreign policy background. That was definitely odd: At this point in a successful campaign, presidential candidates are traditionally flanked by at least one credentialed national security adviser. That person, in turn, creates a tangled web of ex-generals, former officials and think tank scholars to lend the campaign an aura of grand expertise.

Sanders has none—zero—even as he plunges into the primaries beyond New Hampshire. His lone named senior foreign policy adviser, Caryn Compton, who doubles as his Senate legislative director, has no apparent experience in the field. Before coming to work for Sanders in 2013, she spent two years as legislative director for Representative Eddie Bernice Johnson, a Texas Democrat. Compton did not respond to interview requests.

What's also notable about Sanders's limited list of foreign policy consults is the lack of any input even from expected quarters on the political left. While the likes of Michael Walzer, a Princeton University professor who has expounded theories about "just war," and Tamara Cofman Wittes, a former deputy assistant secretary of state in the Obama administration, have gotten calls from the candidate, foreign policy specialists at such liberal-left redoubts as the Institute for Policy Studies (IPS) are still waiting for their phones to ring.

"I have no idea who Bernie is listening to on security and foreign affairs," says Phyllis Benis, director of the New Internationalism Project at IPS. Likewise, leftist icon Noam Chomsky tells *Newsweek* he has "no idea who his advisers are, or who he is close to."

Norman Solomon, a prominent left-wing activist, charged last summer that Sanders's few public pronouncements on foreign policy were "scarcely different than President Obama's current stance...and hardly distinguish him from his rivals for the nomination."

Many of Sanders's devotees might also be

surprised to learn that while he denounces wasteful military spending, he's backed the F-35 joint strike force warplane, whose monster cost overruns have earned it the moniker "the jet that ate the Pentagon." Deploying some of those jets to the Vermont Air National Guard (one of many state-based units that rotate in and out of the Middle East) could "maintain hundreds of jobs here," he has said.

And maybe that's why Sanders doesn't care to air many national security issues. As Solomon argued last summer, "Addressing them in any depth might split his growing base of supporters, who have been drawn to his fervent economic populism."

Perhaps. However, assembling rosters of impressive-looking foreign policy advisers provides little more than window dressing to the

"I HAVE NO IDEA WHO BERNIE IS LISTENING TO ON SECURITY AND FOREIGN AFFAIRS."

campaign, says a leading Washington national security expert who's worked closely with past Democratic Party presidential candidates. "But it's part of the evolutionary process," she adds, speaking on condition of anonymity in order to speak freely. "At some point, the candidate has to get a team that he or she says they meet with, whether they meet with them or not."

Nevertheless, such figures serve an important function for a candidate, she adds. "You want to keep everybody happy." Madeleine Albright, as a future secretary of state in the Bill Clinton administration, was a maestro at keeping campaign "advisers" purring, the expert says. When one gave her a 60-page, single-spaced paper, "she asked him to give her his home number, 'so the candidate can reach you over the weekend.'" Of course, Clinton never called, but the adviser was thrilled.

"Bernie Sanders is not playing the game," the expert notes. But the absence of a national security expert at his elbow, someone who can flag and interpret fast-moving foreign developments for him, signals a glaring liability, she says. It demonstrates that Sanders is "definitely a loner." In the end, of course, his followers may decide that's pretty much what they want in the White House—somebody who thinks for himself. ■

UNMAKING A ← MURDERER

AN UNLIKELY
FRIENDSHIP BETWEEN
A TEACHER AND A
TROUBLED YOUNG MAN
MAY HAVE CROSSED
LINES THAT SHOULDN'T
BE CROSSED AND
DESTROYED TWO LIVES.
ONE OF THOSE MEN IS
DEAD, AND THE OTHER
IS BURIED IN PRISON
FOR HIS MURDER.
A HEINOUS CRIME
FOR WHICH HE SAYS
HE'S RESPONSIBLE...
BUT DIDN'T COMMIT

BY
ALEXANDER

NAZARYAN





FOR SOMEONE SERVING A PRISON SENTENCE FOR MURDER, COREY DEVON ARTHUR IS REMARKABLY POLITE. WHEN HE CALLS, HE ALWAYS ASKS ABOUT MY WIFE, AND HE ALWAYS DOES IT WITH AN UNHURRIED SOLICITUDE THAT MAKES THE QUESTION MORE THAN PERFUNCTORY.

When I visit him at the Green Haven Correctional Facility in Stormville, New York, he strides eagerly toward me as if we were old friends about to share a pitcher of beer and curse the Yankees as they blow a late-inning lead. In conversation, he frequently uses my first name, which has a weirdly endearing, almost paternal effect, though we are nearly the same age.

Arthur looks nothing like the dazed 19-year-old being led out of a Brooklyn precinct house in the spring of 1997, trailed by burly detectives in bad suits, his hands in cuffs, his face fixed in an expression of poignant and pointless defiance. “Gotcha,” said the front page of the *New York Post*. In another photograph, he looks like urban terror made flesh.

You know Corey Arthur. When the tabloids talk about thugs, they mean Corey Arthur. When the more serious publications talk about the effects of socioeconomic inequality on young people of color, they also mean Corey Arthur. You fear him, whether you will admit to that fear or not. Corey Arthur is a scary motherfucking guy, OK? Or was.

“The buck stops here,” Arthur tells me about culpability for the crime he committed. The governor of

New York wanted the death penalty for Arthur, but that punishment is a rarity in New York unless the victim is a police officer. His victim was only an English teacher, *his* English teacher, so he got 25 years to life. He isn’t angry or given to self-pity. Arthur is where he belongs, and he knows that. Whatever wrongs have been done to him are insignificant compared with the wrong he has done, and we both know that.

But there are things I do not know, and those things that draw me to Arthur, compel me to pick up the phone as I change my infant son’s diaper or pack my preschooler daughter’s lunch. For one, while Arthur says he is responsible for the death of Jonathan M. Levin, he maintains he is not culpable of murder. This may seem like the kind of justification one invents while languishing in prison, but Arthur insists on the fine distinction every time I ask him about what happened in the waning hours of May 30, 1997. Other men, he says, killed Levin. Those other men, whose names he will not tell me, would not have been there unless Arthur had introduced them to his beloved English teacher. But they are the real killers, he claims.

“I had no intentions of robbing this man,” Arthur says to me. “I had no intentions of killing this man.”

‘SLOPPY POLICE WORK’

I HAVE TALKED to at least one other person who was in that third-floor apartment on Columbus Avenue and 69th Street on a spring night nearly 20 years ago: Montoun Hart, who was arrested as Arthur’s accomplice in the killing but signed a lengthy confession that implicated Arthur. Hart was subsequently acquitted on all charges and returned to an apparently aimless life. What little of his story Hart deigned to tell me was, frankly, so outlandish that it inadvertently lent credence to Arthur’s version of events. Hart may have had nothing to do with Levin’s death, but after my

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THE \$800 QUESTION: Levin’s murder was tabloid gold, and the local papers speculated about his killers’ motives and about aspects of Levin’s personal life that may have led to his ugly end.





single encounter with him, I have no doubt that as far as that duo is concerned, the more trustworthy man is languishing in prison.

Let me be clear: Do I think Arthur was dumb enough to call his favorite teacher, leave a message on his answering machine, then go to his apartment with some hood he barely knows, torture and kill Levin, use Levin's bank card to withdraw \$800 from an ATM on a busy stretch of Columbus Avenue and then simply go to ground in Brooklyn, where he had to know the cops would find him before the weekend was through?

I do not.

At the same time, is it possible that Arthur did, in fact, murder Jonathan Levin?

The evidence suggests that this is not only possible but probable. As far as the state of New York is concerned, Arthur was given just punishment for a crime he was proved beyond a reasonable doubt to have committed. The criminal justice system,

RAP SHEET RAPPER: Before being collared for the Levin murder, Arthur had been arrested several times on drug charges and had run what he called "an unlicensed pharmaceutical" in Brooklyn.

having done its work, moved on long ago.

I haven't. I have no ties to the people in this case other than a long-standing curiosity about why things turned out the way did. I am not writing as a crusader or an advocate, though a good journalist is often both. Part of my motivation in revisiting this case is the conviction that what remains unknown in it should not remain unknown. Here's just one example: I tried for many months to force the New York Police Department to hand over its file on the Levin murder. I called and wrote letters and had *Newsweek's* lawyer write letters, but got nothing. For a case that had been closed for nearly two decades, such reluctance seemed strange. Or maybe not so strange, since accusations of "sloppy police work" were leveled during Arthur's trial. Is it possible that zealous

**"I HAD NO
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detective work settled on Arthur too quickly, eager to close a case that terrified Manhattan?

Is it possible that a young black man from the depths of Brooklyn was not treated by the criminal justice system with all the solicitude he deserved?

This is also not only possible but probable.

The most important question is whether Arthur should go free. I make no pretenses to impartiality on this point: I have helped him contact appeal lawyers and have suggested steps he should take before his parole hearing. But I also know Levin's parents are both living (both refused to talk to me on the record), and it would surely crush them yet again to have some journalist zonked out on *Serial* and *Making a Murderer* go for glory by trying to free the killer of their son.

Here's the thing, though: Whether by the hand of Arthur or someone else, the only person who gave a shit about Arthur 20 years ago was killed. For this, Arthur deserved the years he has spent behind bars. Nobody disputes that. Yet he is now finally deserving of shit-giving (i.e., empathy). It took him a while to get there, but I believe he is ready to receive compassion without exploiting those who offer it.

For now, Arthur remains something less than a person. He is 98A7146, which is the identification number given to him by the New York State Department of Corrections and Community Supervision. But Arthur is more than 98A7146, more than a murderer, more than the nexus of late 20th-century urban ills. He writes poetry. It isn't very good, but neither is most poetry written by people who aren't in prison. Here is one of his better verses:

*My life is a rose that
forgot to blossom*

He also draws, and his drawings remind me of the great Mexican muralists: sinuous and lush, dreamy but precise. I have been sending him information on how to publish a graphic novel. We both believe his life is rife with material for such an enterprise. He wouldn't even have to make much up: rapping with the Notorious B.I.G. when they were both just hungry scrappers from Brooklyn, getting wailed on by the cops of the famously corrupt 75th Precinct. A graphic memoir, maybe? Those things sell.

Arthur has been in one cell or another since June 7, 1997, when at around 1:30 p.m., members of the New York Police Department descended on him in the Sumner Houses housing development in Bedford-Stuyvesant, Brooklyn. He was planning to escape to North Carolina. Now he was headed to Rikers Island, then upstate for prison, where he has been ever since. He will turn 39 in December, which means he has spent half his life in prison. The cell is his true natural habitat. He has never even used an iPhone.

Arthur spent a good deal of his 20s in Attica, the maximum security prison where bank robber Willie Sutton spent 17 years and where John Lennon's killer,



ALL IN: Levin said he could never be a teacher who didn't invest personally in the lives of his students, and he came to the Bronx because he wanted to help kids exactly like Arthur.

Mark David Chapman, spent 31. "I love Attica," he tells me. "I became a man in Attica.... The most basic parts of manhood I learned in Attica." There are very few people who will express fondness for a maximum security prison, but on a deeply uncomfortable level, 98A7146 is an example of the corrections system at its very best, for Corey Arthur has done significantly better when deprived of freedom by the state. He is much more informed, articulate and compassionate than the stoops and street corners of Bed-Stuy would have ever allowed him to be. I don't like having that thought, but few of my liberal verities are confirmed as I sit in the Green Haven visiting room, whose walls are lined with baby play cribs, watching Arthur eat a microwaved pizza slice and tell me how he'd love it if I could send him books about leadership. He likes to read history too.

Arthur knows that he will never escape the events of May 30, 1997. But since the state did not have him executed, he reasons, he has a responsibility to

During the 1993-94 school year, Levin and Bed-Stuy had become friends, enamored of each other's respective cultures. Levin loved rap, and Bed-Stuy was a real-life rapper. At some point, they began rapping as either "Dee Rock" or "Big Dee" (it is unclear about the timeline). He was closely affiliated with the crew that coalesced around the portly Bed-Stuy rapper named Christos, aka the Notorious B.I.G. He says he was a fan of "Suge" Knight, the West Coast promoter of rappers like Dr. Dre, though that appears to come later. In any case, music became the common language between teacher and student, between white

IT WAS ONE of those Fridays in late May when every New Yorker yearns to escape from Manhattan to the Jersey Shore, the Hamptons or the country, coolers packed, highways jammed, prayers whispered against the rain. Jonathan Levin, though, wasn't going anywhere. He had just finished another week of teaching





EARLY EDUCATION: Arthur says his first encounter with police came when he was 12, after he and some friends ditched school. Cops nabbed the truants, took them to a park and “roughed us up.”

Manhattan and black Brooklyn.

“That was the closest I’ve ever been with a white man,” Arthur tells me.

In the fall of 1994, after a procession of drug-related arrests, Arthur was sent to a military-style prison on the shore of Lake Erie. He spent about seven months there, then returned to New York City. He got a high school equivalency degree, took some courses at Bronx Community College. The hustle beckoned, though, and soon he was selling crack again. “The only thing he talked about was getting money—any way he could get money,” an acquaintance would later tell *The New York Times*.

Still, when Arthur appeared at the door of the third-floor apartment at 205 Columbus Avenue, Levin apparently welcomed him inside.

Levin did not show up for that Saturday meeting at Taft. On Sunday, a fellow teacher left a message: “We’re worried about you. Please call and let us know you’re all right.” There were also messages from another colleague: “Call and say something as soon as you come in the door,” she urged. “Call.”

After he failed to come to school on Monday, several teachers from Taft showed up that evening at Levin’s building. For hours, they pleaded with people on the street to tell them something about their

colleague. Nobody could tell them a thing. Finally, around 11 p.m., one of the teachers called the cops. Two officers showed up and had a neighbor, Richard Veloso, use a spare key to open the apartment.

Veloso went inside the one-bedroom, with the cops behind him. The television was on. It was tuned to NY1, the 24-hour news channel. On the floor between the narrow kitchen and the living area, Veloso saw a body. He thought it was Julius, Levin’s 9-month-old German shepherd.

But as Veloso came closer, he saw that the shape on the floor was too big to be a dog.

‘AREN’T YOU WORRIED?’

I FIRST LEARNED about Levin a decade ago, when I was on the cusp of becoming a public school teacher. Back then, subway cars were plastered with ads for the New York City Teaching Fellows, a rapid certification program for people who were tired of their office jobs and thought that getting 30 kids to read *The Outsiders* would make life more meaningful. I was accepted into the Teaching Fellows in the summer of 2005; by that fall, I would have my own classroom. So dire were things that putting a 25-year-old barely able to do his own laundry in charge of dozens of children appeared a reasonable means of improving the city’s public schools.

“You’re going to become a public school teacher?”

I was drinking coffee outside a fashionable bookstore in SoHo with an appropriately fashionable friend who had grown up a few blocks away and now lived in Paris and worked in either law or consulting. He made no effort to disguise his disapproval. To become a teacher was unacceptable and vaguely embarrassing. We had not gone to Dartmouth to baby-sit hopeless cases who wouldn’t make it to the 10th grade. Altruism? Yeah, OK, but only as an afterthought.

“Aren’t you worried you might end up like that teacher in the Bronx?” this friend asked with casual cruelty. I professed ignorance, which Google cured some hours later when I typed something like “Bronx teacher student killed” into the search box. The headlines that ran down the page captured the tragic essence of his story: “Bronx Teacher, Time Warner Head’s Son, Is Slain,” “Ex-Student Denies Killing Levin and Tells of Gunmen,” “Letter by Defendant Calls Slain Teacher His Friend,” “Murder Trial Examines Drug Use by Teacher.” There were intimations of an affair with a married woman, as well as questions—many questions—about whether Levin had become too close to one of his students.

One could leave it there, one of those big-city

HE SAID, HE SAID: Arthur insists today that “when I left Jonathan Levin, he was alive” and that the brutal murder was done by “other men,” whom he refuses, for whatever reason, to identify.

tragedies that make people thank God for the suburbs. But the story stayed with me, as did the conviction that there was more to Levin than the tale of his demise. What seemed especially admirable to me—as my classmates ascended the ranks of Goldman Sachs, earned their law degrees from Yale, published their first articles in magazines important people were rumored to read—was Levin’s renunciation of the solipsism that marks the American coming-of-age experience. He wasn’t selfish, bowled over by the complexity of the world, falling back into the prevailing “like, whatever” ethos of Generation X. Nor did he court the convenient outrages of that time, which were most frequently solved with T-shirts or bumper stickers: “Free Mumia,” “Save Tibet.” There were plenty of outrages waiting for him in the Bronx, right across the Harlem River, unsexy and forgotten.

Levin wanted to teach students precisely like Arthur; that his street-wise approach

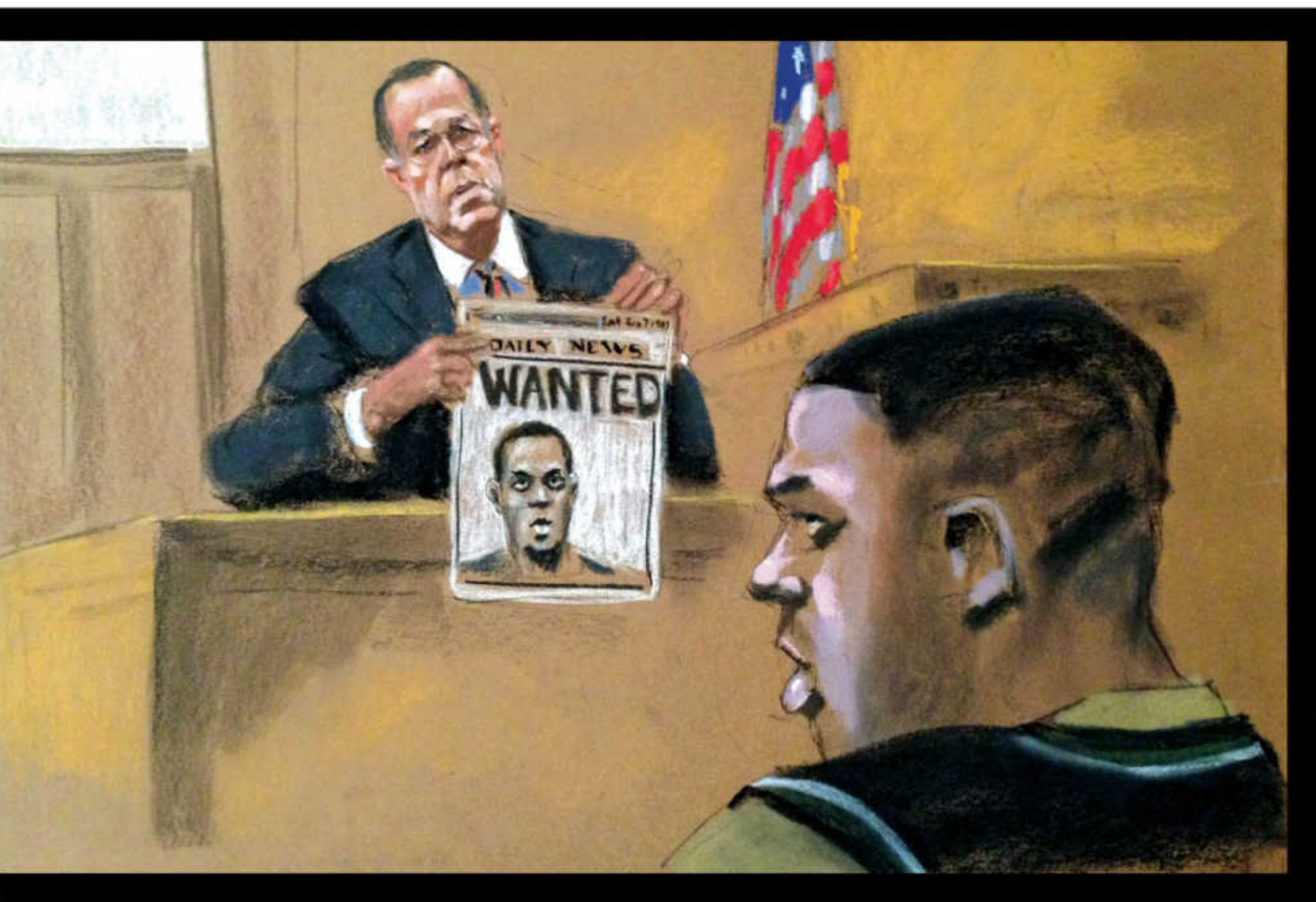


**ARTHUR WAS
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FOR MENACING
A SUBWAY
CLERK IN
BROOKLYN
BY TRYING
TO SET
HIS BOOTH
ON FIRE.**

appeared to work with Arthur confirmed Levin’s hopes for what a good teacher could accomplish in a place like the Bronx. “I can’t ever be a teacher who doesn’t want to invest personally with my students,” Levin wrote in his NYU essay. “If that means giving them some of myself personally...then I have no problem with that.”

“I might, actually, be doing something right,” Levin said at the end of that essay. In my English class, I could have used this as an example of dramatic irony, or what Aeschylus called “the awful grace of God.” *Do you think grace can be awful? If not, why? Did you know Robert F. Kennedy said those words upon learning that Martin Luther King Jr. had been assassinated?*

Do you know what the weirdest thing is about being a teacher? You have no way of knowing whether you are making a difference. You can keep on, as Levin did. Or you can go do something else, as I did.



GOING GOING INTO THE FRAY

IF YOU HAVE ever watched HBO, you have Jonathan Levin's father to thank. The man responsible, however indirectly, for making sure you can enjoy *Game of Thrones* was not groomed from childhood for media moguldom. Gerald Levin descended from Romanian Jews who had come to the United States in 1907 and opened a grocery store in Philadelphia. He went to Haverford College, then the University of Pennsylvania Law School, from which he graduated in 1963. He worked at a white-shoe law firm in New York and, after that proved a bust, on an agrarian project in Iran.

In 1972, Gerald Levin was hired by Time Inc. to work on Home Box Office. Three years later, he figured out that transmitting HBO's signal by satellite, instead of via microwave towers, would give it a reach no other broadcast channel had. He thus became known as Time Inc.'s "resident genius," wrote journalist Nina Munk.

At the time his father reinvented HBO, Levin was 9 years old and living with his mother and two siblings on the north shore of Long Island, in the upper-middle-class town of Manhasset, close to where *The Great Gatsby* takes place. Levin's father had divorced his mother, Carol, in 1970, so Levin grew up in a comfortable but not posh household.

"I will be living in California, working as a wine taster for Ernest and Julio Gallo," Levin predicted in his yearbook as he graduated from Manhasset High School in 1984. He went to Trinity College, majoring in English and psychology. After graduation, he moved to New York City and started working for Access America, a travel insurance company. He did so for the next five years, spending off-hours with high school buddies, enjoying a Manhattan that was still a little wild and must have been an especially welcome playground in the wake of joyless Hartford.

He could have kept doing the young professional thing for years. There is nothing wrong with quietly profitable solidity, but Levin grew restless. "There's gotta be more to this," he would later tell Matthew Dwyer, who also taught at Taft and shared subway rides with Levin from the Upper West Side to the Bronx. And so, in the summer of 1993, he enrolled in a master's program at New York University.

Gordon Pradl, then a professor of education at NYU, remembers Levin bursting into his office, eager to get into the program so that he could start teaching in the fall. "I think that he realized that if he had some of these principles—like helping others—then staying in the business world was not his way of achieving that," Pradl says. "So he had to directly get into the fray. And that's teaching—teaching was actually a logical direction given his talents and also the quickest direction. Because he was in a hurry. He was in a hurry."

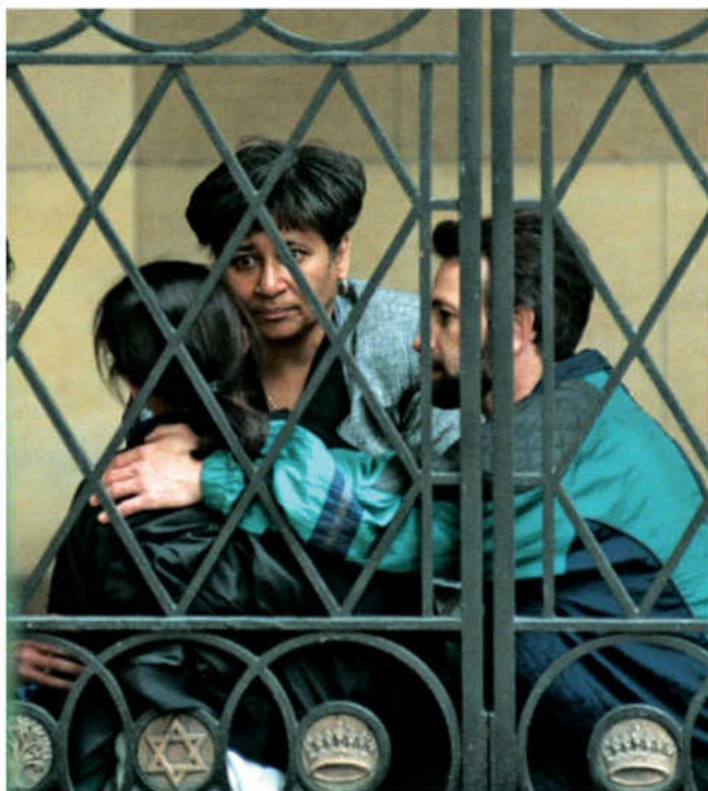


'I WAS AN ASSHOLE'

COREY ARTHUR was born in 1977, at the end of a year during which there had been a chaotic black-out in New York City, Son of Sam had gone around killing young women in the outer boroughs, and the whole city seemed to be floating ever further from the American mainland. The Yankees won the World Series, but all else was grim.

Arthur has a good memory, but it stumbles over the details of his life before prison, as if that were an ever-receding dream. He was raised by his mother and great-grandmother. Arthur had a half-brother and half-sister about whom he does not say much, other than that he is proud of them and understands why they don't make much room for him in their lives. "We lived from check to check," he says. "There wasn't no savings."

He remembers some of his teachers: Ms. Cohen,



RICHIE POOR: Many assumed that Jonathan Levin was a rich kid, but he was raised by his mother, who divorced Gerald Levin, center left, years before he became the CEO of Time Warner.

kindergarten, who had a son named Corey and gave him T-shirts bearing that name; Ms. Eisenberg, third grade, in whose class he made butter. “I always liked school,” Arthur says. “I never had a problem at school.”

Middle school was “when the real problems started.” He went to J.H.S. 302, a building on Linwood Street in East New York, Brooklyn, that could easily pass for a medium security prison. It was a bad school then; it was a bad school until the spring of 2015, when it closed, cleaving into several smaller schools. Arthur recounts infractions like fighting and using the girls’ bathroom. His first encounter with the police came when he was 12. He and some friends skipped school; Arthur says cops from the 75th Precinct easily pegged them as truants, took them to nearby Highland Park and “roughed us up.”

Once he got into real trouble, he kept getting in trouble. “The lines were drawn,” Arthur says. In the summer of 1992, he was arrested for menacing a subway clerk in Brooklyn by trying to set his booth on fire. “It’s not for me to say, but I would say he’s a troubled kid,” that clerk later told the *Daily News*.

Arthur’s assessment: “I was an asshole.”

That fall, Arthur moved with his mother and her new husband to an apartment near Yankee Stadium—and even nearer to the Bronx Supreme Court. He had been kicked out of Franklin K. Lane High School in Brooklyn, so now he went to William H. Taft in the Bronx, just a few blocks up the Grand Concourse, with its enormous apartment buildings recalling Moscow or East Berlin.

Arthur had Levin’s class at the end of the day, eighth period, not usually a time when he was in school. The two first met outside the classroom. “I was coming out of school a tad bit early,” Arthur says, “and I think that he was coming back from a cigarette break. And we just happened to cross paths. And because I was leaving school early, I was scared, and I think he was kind of shocked to be seen smoking a cigarette, because the first thing he did was try and put it out. The first thing I did was look at him and start haulin’ ass.”

The next day, Arthur showed up in English class. He liked, at once, what he saw. Levin would open every class with a discussion of a quote from a rap song. “He had a thing for, like, conscious rap...rap mostly with a message,” Arthur says. He adds that Levin “looked like a dork.” This is said not pejoratively but with a kind of wistful affection.

A little later, Arthur saw Levin outside of class again. OK, let’s see how cool this dude is, he thought. He took out a cigarette and began smoking it in front of his teacher. Nothing happened. He then tested Levin about his knowledge of Timberland boots. It quickly became clear that Levin knew more about Timbs than he did. He was a white guy down with black culture. Arthur, meanwhile, was a black kid with a curiosity about the white world. “He was like an anomaly to me,” Arthur says. “And I was an anomaly to him.”

But no amount of De La Soul or KRS-One was going to keep Arthur coming to school. Though nominally living in the Bronx, he was drawn to the streets of his native Brooklyn, where he ran what he calls “an unlicensed pharmaceutical.” In the first half of 1994, the cops nabbed him for possession of heroin and selling crack, and that fall he was sent to Lakeview, a special brand of military prison that the National Institute of Justice described as employing “strict, military-style discipline, unquestioning obedience to orders, and highly structured days filled with drill and hard work.”

Arthur says he did well during his seven months at Lakeview, but then he was out and back downstate, caught in familiar currents. At some point, he reconnected with Levin, who mentored his former student, though to hear Arthur tell it, they were more like friends. They played pool, drank beers, hit on girls. There was the time they walked from SoHo back up to Levin’s apartment, bumming cigarettes along

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the way, and the time Arthur cock-blocked Levin with Amy, Levin's girlfriend. Arthur remembers all this as one might college escapades that involved a friend who couldn't make the 25th reunion.

Dwyer, Levin's colleague, recalls Arthur coming over to his house to watch a ballgame. He says Arthur was quiet and shy, the way kids often are around adults. Then again, Arthur was pretty much an adult himself. By the time he and Levin became friends, Arthur was long done with Taft. Dwyer points this out in defense of his slain colleague, who would later stand accused of getting too close to a student. Still, that won't assuage some who see little difference between student and former student. "It just seems inappropriate on a lot of different levels," education historian Diane Ravitch says of their friendship. "There's some lines you don't cross."

HE GOT WHAT HE DESERVED

"JON COULD RAP; and he could write," says Dorothy Striplin, a retired educator who studied at NYU with Levin and got to know him well. "It wasn't like he was a white boy doing rap," by which she means his interest in rap wasn't of the ironic, half-mocking kind. As evidence of Levin's passion for the genre, Striplin showed me a three-page-long rap Levin wrote while at Oxford in the summer of 1994. Calling himself MC Jake (Jake was his nickname), he rapped:

*An MC that can take me ain't been born yet
You see I'll make you laugh and I'll make you smile
Everyone out there wanna get with my style
Now I wanna tell you 'bout the rest of the crew
Recognize what I'm sayin' 'coz I'm a rhyming Jew*

Despite many references to hookups attempted and realized, as well as to the notoriously unpalatable cuisine of dear old England, the rap ends on a sentimental note free of the usual bluster:

*The group was kind dope 'n' I'm kinda hopin'
That our hearts and our minds will always stay open*

Much was made of Levin's affinity for rap after his murder, given that the culture war over gangsta rap was not yet quite over. Some saw in his approach a willingness to engage with the culture of the Bronx, but others saw it as pandering.

On June 25, 1997, *The Wall Street Journal* published an op-ed by a former teacher named Sylvia Christoff Kurop. It was titled "Killed by Modern Teaching?"

His was the jeans and T-shirt approach to teaching, whereby "The Great Gatsby" was taught with references to rap music at chairs arranged in a circle.

The point of teaching is not to fuse personal relationships, but first and foremost to maintain a professional role. Mr. Levin's brave and open approach to his students certainly made a prominent, positive impact

on his adoring students' lives. Yet in the end it took just one student—only one—to highlight the extreme risks of this teaching style.

She comes close to saying what others doubtlessly thought: He got what he deserved.

Two weeks later, on July 7, the *Journal* published several responses to the Kurop op-ed. One of them was signed by the English department of Taft:

Ms. Kurop is under the false impression that, in an effort to relate to his students, Mr. Levin lowered his classroom standards. This is absolutely untrue. One reason why Mr. Levin was such a successful teacher was that he continually held high expectations of his students and accepted nothing less than their best work. This is why they respected him.

Several other letters pointed out that Kurop taught only briefly, back when Dwight Eisenhower was in the White House. True enough, but she was not the only one to think harshly of Levin. The *Daily News* called him "perhaps too trusting, too tenderhearted," and quoted a student: "People took advantage of him. Some kids would curse at him, but he would just laugh it off. Kids would ask to go to the bathroom and never go back to his class."

It must be said here that every teacher in New York City has had a student ask to go to the bathroom and not return. This is not the failing of a teacher; it is the nature of a teenager.

Dwyer bristles at the suggestion that teachers like Levin were missionaries so zealous in achieving their social goals that they couldn't be bothered with the finer points of classroom practice. "It was a job," he says. "We were professionals, right? We weren't flying in and saving anybody."

"IT TOOK JUST ONE STUDENT—ONLY ONE—TO HIGHLIGHT THE EXTREME RISKS OF THIS TEACHING STYLE."



KILLED BY MODERN TEACHING? Levin was praised by students and colleagues, but some educators seemed to blame the victim, implying he'd crossed a line with his students that put him in harm's way.



'ELVIS WAS A HERO TO MOST, BUT HE NEVER MEANT SHIT TO ME'

TEACHERS OCCUPY a strange place in American society, revered and reviled. It is a profession whose main benefit is widely believed to be summer vacation. I can report that this is indeed a great perk, though it doesn't quite make up for the many weekends grading five-paragraph essays on the theme of *Antigone*, of late afternoons, long after the final bell, trying to explain to some kid the ancient mysteries of the semicolon.

Once, while we were all sleepily preparing for first period, a kid from Bensonhurst climbed out on the scaffolding and threatened to jump. A teacher of Latin coaxed him down.

Another time, a former colleague called to say a student was killed while walking home from a party in Bed-Stuy. Some jealous punk slashed her in the neck, and she bled out on the street. Her name was Kyanna Thomas. She was a good kid. They were all good kids.

Once, I read my students the great epigrams of the Roman poet Martial. Here is one:

*Your lover and your spouse agree on this:
That baby that you got cannot be his*

Is that any different than having your students parse Public Enemy, as Levin's may have? Is a classroom full of teenagers expending their fullest

+ **TEACH YOUR CHILDREN WELL:** Levin and Arthur bonded over rap and Levin's fascination with urban culture. Arthur says his friendship with Levin was the closest he'd ever been to a white man.

intellectual energies on decoding an epigram by Martial in any way different from a classroom full of teenagers expending their fullest intellectual energies on decoding "Fight the Power"?

I am suspicious of anyone who can confidently answer that question.

A BIG RED X OVER THE WHOLE THING

ON THE FIRST floor of what used to be Taft is the Jonathan Levin High School for Media and Communications. The principal, Jacqueline Boswell, never answered my phone calls or emails (she must have sensed I wasn't coming to do a puff piece), so I simply went on my own, slipping past security without any questions at all. It is a despairing fact of life in modern America that being a crisply dressed white male will open almost any door.

Jonathan Levin High has the joyful, claustrophobic chaos of any urban high school. The teachers look harried; the secretaries look bored. Some kid told me he liked my tie, and I had the urge to play the teacher again and ask him why he was tarrying in the hallway.

In a display case near the principal's office, there are several photographs of Levin, with his mother,



MORE THAN STREET-WISE: Arthur, who has spent more than half his life behind bars, says prison made him a much better man than he'd have been growing up on the outside.

his friends, always happy. An explanatory note calls him “Jonathan Levin HS,” as if “high school” were a professional appellation like “doctor of philosophy.” The poorly written paragraph, which is single-spaced but becomes double-spaced in the final lines, praises his “passionate devotion and professional commitment.” It doesn’t mention that he was murdered, though that is the sole reason the school bears his name. If I were still an English teacher, I would put a big red X over the whole thing and tell whoever wrote the unfortunate passage that it constituted an atrocity committed upon the English language.

That’s how I spoke to my students when I was a teacher. Most of them liked it.

Jonathan Levin High will soon be no more. When the closure was first announced, *The New York Times* reported on what ailed the misbegotten place: “Money for a college scholarship in Mr. Levin’s name dried up. A ballfield that a Mets official helped pay for fell into disrepair. Computers sat untouched, applications to the school fell and the graduation rate sank to 31 percent, the fifth-lowest in the city.”

One of the people who rallied against the closing was Levin’s mother, Carol. She had, in the wake of his death, become a teacher in the Bronx, a parent venturing into the battlefield that claimed her son. “If I didn’t try this, I really felt I’d just be taking up space,” she told *Good Housekeeping* for a 2000 profile. “Me and my pain, taking up space on this earth.” That sounds, to me, like something Aeschylus might have written.

Gerald Levin did not become a teacher, but he did not stay a media mogul either. His company’s 2001 merger with AOL is widely regarded as one of the worst decisions in the history of corporate America. In 2002, he met Dr. Laurie Perlman, a psychic who communed with the dead. She told him she spoke with his son. He believed her. He left his second wife and moved to Santa Monica with Perlman, where they opened Moonview Sanctuary, which looks to be one of those places where rich people come to purchase the illusion of serenity.

When there were mass protests over the police killings of black men in Ferguson, Missouri, and New York’s Staten Island, the Levins wrote a column for *Deadline Hollywood*. “We are in a never-ending cycle of chaos and death,” they said. “Even if

we must scratch and claw ourselves to get into the light, we must begin fully to comprehend the intransigence of old patterns.”

This too deserves the big red X.

Jonathan Levin, for his part, would have probably taken his students to Staten Island, to stand at the spot where Eric Garner died and chant, “Black lives matter.” And in the classroom, he might have played N.W.A.’s “Fuck tha Police,” and the students would have talked about what that song meant, and about Birmingham, the Watts Riots, Ferguson and what those events said about us and about our country, sometimes glorious but frequently tragic.

‘IT’S ALWAYS THE GOOD PEOPLE’

IN ABOUT six years, Arthur will appear before the parole board. He has a decent disciplinary record and has earned certificates in trades like woodworking and metalworking, which could presumably be useful in the real world. He is especially proud of his legal research certificate. He is an AIDS counselor. As a former English teacher, I am happy to certify that his letters, composed with no apparent help, show a good-to-excellent command of grammatical rules.

Arthur has also shown the contrition expected of him by the state. His displays of regret are genuine, though they may also have a practical purpose (i.e., the eventual appearance before the parole board). In 2010, he asked the Manhattan district attorney to allow him to send a letter to Levin’s parents. Levin’s father accepted the offer; his mother refused it. “Sir, I did you and your family a terrible injustice,” the letter says. “Not a day passes that its crushing impact isn’t impressed upon me.”

But neither in that letter nor in any of our conversations does Arthur say the thing I am confident he will have to say if he wants to leave prison: *I killed Jonathan Levin*. Arthur does not want to talk to me about what happened on May 30, 1997, except to say this: “When I left Jonathan Levin, he was alive.” Despite his circumspection, Arthur does have a narrative that challenges the one offered up by prosecutors. “[Levin] did something he shouldn’t have done with someone he shouldn’t have done it with,” he says. During his trial, Arthur’s lawyers argued that Arthur and Levin were smoking crack when assailants entered the apartment and ordered Arthur to bind him. Arthur now says he never smoked crack, neither that evening nor on any other occasion; the notion of Levin smoking crack is equally ludicrous to him today. As far as I understand it, Arthur maintains that other men murdered Levin, with him acting only as an accomplice. But no such assailants were ever identified, while forensic evidence

(blood on Arthur’s clothes, fingerprints at the crime scene) proved convincing enough for the jury. The .22-caliber gun Arthur supposedly used was never found, but this turned out to be a surprisingly irrelevant detail.

I ask him to tell me about the real killers, but he refuses, citing the safety of his family and the code of the streets. “This is not my story alone to tell,” he tells me in one letter. “I have every intention of giving full disclosure to the parole board when I appear before them. But other than that, my hands are tied.”

When Arthur entered Levin’s apartment that evening, with him was Montoun Hart, the small-time criminal from Brooklyn who says he came along without quite knowing what he was getting into. Later, Hart would sign his 11-page confession that portrayed him as an unwitting accomplice in the murder, which he’d had no idea Arthur planned to commit. He was acquitted of all charges partly because he claimed to be high and drunk when signing that confession. If that’s the case, then can anything about his description of that night be believed?

Another question for which I don’t have an answer.

“It’s always the good people,” Hart says of Levin, talking with me over the phone for the first time after I have told him of my interest in the case. This sounds disingenuous, like some lugubrious thing he has heard in a movie and saved for moments just like this.

Hart still lives in Brooklyn; his Facebook page is rife with allusions to the Crips, though for Hart the C’s are more a club for middle-aged dudes than an active criminal gang. Hart disavowed all responsibility for what happened on May 30, 1997, spun a wild and increasingly unbelievable story of his life, then asked for money for an on-the-record interview. I paid for the drinks and never talked to him again.

Arthur and I speak by phone about once a week. He calls me when I am on a jog. He calls as I am plodding through *The Cat in the Hat* for the sixth time. He calls when I am in the hospital with my wife, who has just given birth to our second child. “Corey,” I mouth to her. She understands: They don’t let you play phone tag from a maximum security prison. We both know I am going to keep talking to Arthur, because it would be cruel to take the story but leave the man, like a teacher walking out in the middle of a class.

I also know it would have been so much easier for Jonathan Levin if he had just stayed in Manhattan, selling insurance. Such a life could be a good one, but it was not the life he sought to live. The Bronx beckoned, a battlefield where glories are rare and muted, defeats frequent and resounding. Nothing would be easy in the Bronx, but Jonathan Levin had tired of easy things. So when the Bronx called, he went. ■

**“IT WAS
A JOB. WE
WERE PROFESSIONALS....
WE WEREN’T
FLYING IN
AND SAVING
ANYBODY.”**



+ SORELY MIST: DDT
was widely used
into the '60s until
scientists identified the many
ways it harmed
humans and the
environment.



NEW WORLD



MEDICINE

ZIKA

ENVIRONMENT

HUNGER

WILDLIFE

SPACE

GOOD SCIENCE

CHEMICAL OVERREACTION

Can DDT stop the Zika scourge?

LAST WEEK, at the bottom of a *New York Times* story about the Zika virus outbreak, an old and controversial insecticide made a brief appearance. DDT, made famous for its environmental consequences by *Silent Spring*, Rachel Carson's 1962 book, was being "mentioned a bit" as a possible means to eradicate *Aedes aegypti*, the Zika-carrying mosquito, the *Times* wrote.

DDT works as a neurotoxin, killing mosquitoes and other pests brain-first. Scientists determined decades ago that DDT also causes serious environmental damage, leading the U.S. to ban the chemical in 1972; the 150 parties to the 2001 Stockholm Convention on Persistent Organic Pollutants also agreed to put an end to its use. Recent studies have drawn connections between DDT and neurotoxic health effects in humans, like Alzheimer's, Parkinson's disease, breast cancer, diabetes and slowed brain development in children.

These concerns, said Lyle Petersen, director of the division of vector-borne diseases at the Centers for Disease Control and Prevention, need to take a back seat in the face of Zika. DDT, he told the *Times*, could be used in small amounts on the inside walls of homes; the environmental damage

widely associated with the insecticide was tied to large-scale agricultural use, and scale matters.

But Joe Conlon, a technical adviser to the American Mosquito Control Association and a former Navy entomologist, says that's a terrible idea. "DDT seems like a silver bullet, but it isn't," he says. First of all, *Aedes aegypti* might be resistant to DDT. Conlon says the Latin American countries where Zika is blooming used DDT heavily in the 1960s to kill mosquitoes, and the mosquitoes developed robust resistance to it, which may be lingering in the population.

And even if the mosquitoes aren't resistant, they soon would be. He speculates mosquitoes could develop resistance within a year. "What's even worse, resistance to DDT can stir cross-resistance to the other pesticides we use, like the pesticide we use to treat bed nets, to fight malaria."

Conlon says there may be no good chemical solution to the Zika mosquito problem. "What you need is a change in culture," Conlon says, a massive push to encourage people to eliminate any standing water on their property. "Americans tend to want a chemical solution to everything," he says, but DDT isn't it. **N**

BY
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GRAIN ELEVATOR

Scientists are genetically modifying rice to withstand the ravages of climate change

"I'VE NEVER had so many students want to take part in a project," says Jane Langdale. "They want to save the world."

Langdale, a professor of plant development at the University of Oxford, is part of a team of scientists from 12 universities in eight countries working to develop a new strain of hyper-efficient, drought-resistant rice known as C_4 . And in a world with a rapidly changing climate where nearly a billion people live in hunger, it could have a huge impact.

Over 3 billion people across the globe depend on rice for survival—it's one of the most widely consumed food crops, providing over one-fifth of the calories consumed by humans worldwide. As populations grow, this demand will increase. According to the International Rice Research Institute, each hectare of land (about 2.5 acres) used to cultivate rice in Asia provides food for 27 people. By 2050, that same hectare will need to feed 43 people.

Meanwhile, climate change will make production more difficult. Increased global temperatures will bring more erratic weather patterns, including more frequent and more intense droughts, and this will contribute to water scarcity and make the cultivation of this vital crop ever more difficult. "The planet is set to increase to 9 billion by 2043," says Paul Quick, a principal scientist at the International Rice Research Institute in the Philippines. "As the world gets hotter, we have to

think of new and novel ways of improving agriculture to meet the food demands of the future."

Now this group of scientists from around the world is working to create a strain of hyper-efficient rice resistant to the effects of climate change; it produces a greater yield in warmer temperatures while using less water. Traditionally, rice plants grow through a chemical process known as C_3 photosynthesis: They take carbon dioxide (CO_2) out of the air, break it down and use the carbon molecules in forming 3-phosphoglyceric acid (3-PGA), which, as one paper puts it, "is subsequently used to build the organic molecules of life."

This process keeps C_3 plants alive, but it's relatively inefficient because of the way a key enzyme, ribulose-1,5-bisphosphate carboxylase/oxygenase, works. RuBisCO, as it is commonly referred to, helps facilitate the CO_2 reaction. But it can also react with oxygen in the air, creating a toxic compound the plant then needs to address. This process wastes energy and reduces the plant's food-making efficiency. And when it's hot, this becomes even more of a problem: At higher temperatures, RuBisCO is more likely to confuse O_2 for CO_2 .

On the other hand, natural C_4 plants, like corn, are more efficient thanks to the cell structure of their leaves. In C_4 plants, RuBisCO transforms CO_2 into energy away from the leaf surface in specialized cells, called bundle sheath cells.



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+
GOING GRANULAR:
 The International
 Rice Research Insti-
 tute in the Philippines
 is the world's main
 repository of seeds,
 genes and informa-
 tion about rice.

This prevents RuBisCO from reacting with oxygen in the air and forces it to react only with CO₂, allowing the photosynthetic process to operate at maximum efficiency. Stomata (tiny apertures in the leaf's outer layer) can remain more closed in C₄ plants during this process, meaning they don't lose as much water through transpiration—extra helpful in the expected drier environment of the future.

If these scientists can replicate the C₄ process in rice, the result could be a hypercharged plant with the ability to resist the effects of climate change. "It's like putting a turbocharger in a car," says Quick. "These plants focus CO₂ so that instead of having 400 parts per million, you've got 1,000 or 1,500 parts per million."

As a result of this increased efficiency, C₄ plants also have greater drought resistance. "C₄ plants grow in hotter, drier areas," says Julian Hibberd, a professor of molecular physiology at Cambridge University. "They have a better tolerance for periods of low water supply. With increased fluctuations in climate, we are going to need a crop that is more resistant. C₄ could be the answer."

Researchers are working on identifying the genes in C₄ plants responsible for creating the plants' cell structure and activating the more efficient photosynthetic process. Once these genes are identified, the goal is to figure out how to insert them into the rice genome. Scientists

are quietly hopeful of a breakthrough soon; the Massachusetts Institute of Technology named the C₄ project one of the "10 Breakthrough Technologies of 2015." If successful, C₄ rice could revolutionize a planet in which a steadily changing climate is putting the world's food supply at risk. "A stable supply of food in emerging economies would be an incredible boost to the global economy," says Hibberd. "It could also create greater societal stability worldwide."

But there is at least one catch: Rice cultivation is a massive contributor to climate change.

Methane is the most potent greenhouse gas because of its ability to trap heat within the atmosphere, producing 21 times as much global warming as CO₂ and accounting for 20 percent of the global greenhouse effect. And up to 17 percent of global methane emissions come from rice cultivation. In large part, that's because the warm, waterlogged soil in rice paddies provides ideal conditions for the growth of a particular kind of bacteria known as methanogens. "When they consume carbon dioxide that has been emitted by the roots, they metabolize it and produce methane," says Christer Jansson, director of plant sciences at the Environmental Molecular Sciences Laboratory in Richland, Washington. "This methane then travels up through the ground and the plant and into the atmosphere." The result is that rice farming



+ GREENHOUSE GUESSES: Researchers are trying to identify the genes that activate a more efficient photosynthesis process in rice.

leads to 25 million to 100 million tons of methane emitted into the air every year.

Jansson is part of a group, led by Chuanxin Sun of the Swedish University of Agricultural Sciences, working to solve this problem by creating a rice plant that produces less methane. Sun and his team set out to see if they could channel carbon in the plant from belowground, in the roots, to aboveground, in the stems and leaves, and therefore stop bacteria near the roots from producing so much methane.

By taking a gene from the barley plant that regulates where and how carbon is stored and inserting it into the rice plant, the scientists have created a new rice variety, dubbed SUSIBA2 rice. Thanks to the barley gene, the SUSIBA2 plant captures more CO₂ in its leaves, stems and grains while reducing the carbon allocated to the roots. "Through this process," says Jansson, "the methane-producing bacteria near the roots are starved and cannot produce methane." The concentration of carbon in the grains also produces larger, starchier rice grains, as well as an overall yield increase of around 10 percent. Test results so far are positive: A study published last year in *Nature* found that three-year field trials in China were associated with a significant reduction in methane emissions.

"It's potentially huge," says Jansson. "If we have a rice that can produce more food for the population at the same time as reducing methane, it would be an incredible breakthrough." Excited as they are, both groups of scientists are cautious and admit that it will likely be 10 to 15 years before these strains are commercially available, even if all the testing goes according to plan.

A major challenge facing both studies is increasing worldwide skepticism of genetically modified organism foods. "If there is something viable that could be commercialized, the concern would be around the unintended consequences," says Megan Westgate, executive director of the Non-GMO Project, a U.S.-based nonprofit. "It's justified that consumers are concerned to know what the impact will be on the environment and on human health."

Scientists are keenly aware of the concern. Sun says that "so far we have not seen any negative impact on the environment." However, he admits that "if we drive carbon aboveground to the grain, it might affect the soil ecosystem, so we have to do more experiments to understand these effects." Likewise, Jansson says that "we need to investigate to see the total benefit of this product, to see



the pros and cons. If there are negative effects on human consumption or the environment, we need to identify those and mitigate them."


For the scientists behind the C₄ project, arguments against GMO crops are diminished by the fact that C₄ plants are naturally occurring and that, in a sense, they are just reproducing what nature has already achieved. "Evolution itself has done this 60 times," says Langdale. "Twenty to 30 million years ago, plants evolved C₄ mechanisms on their own."

But another major concern for Westgate and others from the anti-GMO movement is what happens when corporate players become

UP TO 17 PERCENT OF GLOBAL METHANE EMISSIONS COME FROM RICE CULTIVATION.

involved. Monsanto, the American biotechnology company involved in numerous lawsuits over the health and environmental effects of its products, is their boogeyman. "The biggest problem with corporate involvement is specifically around the patenting and what that does to food sovereignty," says Westgate. "When corporations have control of the genetic sequencing of our major foods, it becomes very problematic."

In fact, the International Rice Research Institute's Quick admits that if C₄ rice becomes commercially viable, "only large agri-businesses would have the capacity to distribute it properly." However, he is adamant that he and his team would negotiate so that developing countries would be free from the intellectual property laws that govern this kind of genetic patenting.

Ultimately, most scientists feel that the potential benefits of the C₄ rice project work far outweigh any potentially negative consequences. "We are doing this as a humanitarian project to stop world hunger," Langdale says. "At the end of the day, if someone is starving, would they rather eat genetically modified rice or nothing at all?" 



BACTERIAL BACKUP

With antibiotics failing, scientists are turning to a new weapon to fight superbugs: antibodies

LAST NOVEMBER, researchers in China announced they'd made an alarming discovery: a new bacterial superbug lurking in the food chain.

Through routine animal testing, they found a high number of *E. coli* samples that were resistant to Colistin, an antibiotic used as a last line of defense against the deadliest infections. The

samples, which had come from a commercial pig farm near Shanghai, confirmed that after years when tons of the drug were dumped into animal feed, a strain of the bacteria had developed that could no longer be killed by one of the most effective and toxic antibiotics in existence.

That Colistin was no longer effective against

BY
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PIG NEWS: *E. coli* samples from pig farms in China were resistant to the antibiotic that is the last line of defense against the deadliest infections.

this strain of *E. coli* wasn't even the worst—or most surprising—part of the news. The researchers also found the bacteria had developed a new gene, *mcr-1*, that allows the resistance to jump from cell to cell, strain to strain and even between different species of bacteria. When paired with more aggressive microbes like *Klebsiella*, a genus of bacteria commonly found in hospitals that can cause pneumonia, this gene could help create organisms resistant to all known treatments.

“This is a watershed moment,” says Dr. Yohei Doi, an expert on antimicrobial resistance at the University of Pittsburgh who assisted the researchers in China. Along with the larger infectious disease community, Doi has been warning for years that the overuse of antibiotics in both agriculture and medicine is pushing us toward a future in which routine infections become even harder to fight and more fatal. Unlike other types of drugs, antibiotics can lose their potency over time as the microbes they are designed to defeat mutate—and the *mcr-1* gene is the latest example. “What’s really different this time,” says Doi, “is how quickly and easily this gene can transmit from one type of *E. coli* to another.”

The emergence of *mcr-1*, which has already been detected on at least four continents and in 18 countries, underscores a larger issue confronting infectious disease experts and the medical community more broadly. For much of the 20th century, the development of new antibiotics dominated the field and kept pace with the illnesses they were designed to treat. Patients, for the most part, received the lifesaving care they needed, but there was also a downside: Other types of therapies—especially those that worked to boost the immune response—fell by the wayside.

As the risk of antibiotic resistance becomes more acute, a small but growing group of scientists, doctors and medical researchers are trying to shift some of the attention and funding back to projects that examine how human immunity can be harnessed to combat fatal infections. They aren't advocating against developing new antibiotics, which they readily acknowledge will be necessary to confront the superbugs that are killing an estimated 700,000 worldwide each year. However, it's shortsighted, they contend, to focus narrowly on destroying the bacteria with drugs while overlooking the fact that antibodies—the body's natural defense mechanism—have a critical role to play. “The bottom line is that the bacteria now develop resistance to anti-infectious agents faster



than we can develop the anti-infectious agents,” says Dr. Jean-Laurent Casanova, a professor at Rockefeller University who studies how genetic coding can make a person more susceptible to disease. “If we continue to rely solely on antibiotics, we are going to have a problem.”

Different classes of antibiotics kill bacteria in different ways. Some destroy the cell wall while others interfere with a part of the metabolic process. Antibodies, on the other hand, are proteins that work in a number of ways to clear infections. They bind to bacteria and make it easier for white blood cells to ingest them. They can induce other proteins in the blood, known as complement proteins, to cover the surface of the foreign invaders and again make it easier for white blood cells to dispose of them. Once it's recruited, the complement system itself can eliminate certain organisms by punching holes

SUPERBUGS ARE KILLING AN ESTIMATED 700,000 WORLDWIDE EACH YEAR.

in their cell walls. These processes don't usually harm the antibodies, which can continue hunting for as long as necessary. Thus, the immune system attacks bacteria in multiple places, making it nearly impossible for them to evolve and become resistant.

How we get from having the bug to having the disease is not well understood. Since the 1860s, germ theory—or the idea that ultimate responsibility for an illness lies with the pathogen—has monopolized the discussion. But, while a microbe is clearly needed for an illness to take root, not everyone who carries a given disease-causing organism gets sick from it. “Our current way of thinking about it is outdated,” says Dr. Liise-anne Pirofski, chief of the infectious diseases division at the Albert Einstein College of Medicine. “We know that there are many instances where the same microbe



is totally innocuous in one person but kills another.” For example, only 1 in 1,000 infected children develop life-threatening malaria. Fewer than 10 percent of people carrying tuberculosis get the full-blown disease. During the flu pandemic of 1918, more than 90 percent of those who got the virus lived. In addition, scientists know that sometimes the problem isn’t the bacteria itself, but the toxins it releases as it reproduces within its human host. Antibodies also have an advantage here, as they can help clear the poison from the body. Antibiotics can kill only the bug.

“The entire mindset has been, ‘Kill the bug. Kill the bug,’” says Dr. Arturo Casadevall, a microbiologist and immunologist at Johns Hopkins University. “The field of infectious disease is essentially stuck. Now we are paying the price.” As drugs like Colistin become less effective, the number of deaths attributed to drug-resistant organisms is expected to rise to 10 million by 2050.

And yet, the public health response to the growing problem of drug-resistant bacteria remains highly focused on speeding up the process of getting new antibiotics through the regulatory pipeline. In March 2015, the White House released a wide-ranging national action plan that emphasized the need for new drugs. The House of Representatives passed legislation in July that would allow pharmaceutical companies to conduct shorter and smaller clinical trials for antibiotics in the hope that new medications would get to market faster. In 2016, the National Institutes of Health (NIH) plans to spend \$461 million studying antimicrobial resistance—an increase of \$100 million over last year. Only a small fraction of this attention has been given to antibodies, vaccines and other potential treatments.

The good news is that in the last five years there has been a broader resurgence in antibody research, says Dr. Brad Spellberg, an expert in drug-resistant infections at the Los

Angeles County-University of Southern California Medical Center. Spellberg’s lab is trying to harness antibodies to defeat deadly pathogens, including *Acinetobacter*, a genus of bacteria found in hospitals that is resistant to most antibiotics available today. This NIH-funded project has already yielded several promising antibodies, at least one of which has protected mice from lethal bacteria. Then there’s the groundbreaking research being done by SAB Biotherapeutics, a small firm in South Dakota that is breeding cows that produce human antibodies. Company officials say that when injected with diseases like Methicillin-resistant *Staphylococcus aureus*, more commonly known as MRSA, these cows make effective antibodies, which SAB’s researchers believe could, in the future, be given to humans to fight off the infection. MedImmune, a biotech firm based in Maryland, is conducting clinical trials on an antibody that targets a toxin produced by *Staphylococcus* bacteria.

Two months after the discovery of the Colistin-resistant *E. coli* was reported, the NIH announced it was spending \$5 million on 24 programs aimed at developing what it is calling “nontraditional therapies” for antibiotic resistance. Spellberg estimates that there are a few dozen other university facilities and research firms—mostly in the biotech sphere—doing similar work. The large pharmaceutical companies have yet to see a big breakthrough that proves they can turn a hefty profit. That may soon be changing. “For a long time, there was little academic interest in antibodies for bac-

“BACTERIA NOW DEVELOP RESISTANCE TO ANTI-INFECTIOUS AGENTS FASTER THAN WE CAN DEVELOP THE ANTI-INFECTIOUS AGENTS.”

terial infections because every time resistance would catch up with the drugs we had, a company would come up with the next antibiotic,” says Spellberg. “But the drug companies have decided antibiotics aren’t profitable enough and have largely shut down their work in this area. So people are starting to think maybe it’s time to take another look at immunotherapies.”

There is nothing novel about this approach. Antibodies have been used since the late 19th

century, when immune-boosting serums were developed to treat patients with diphtheria and tetanus, which at the time claimed thousands of lives annually. (The first Nobel Prize for medicine was awarded in 1901 to Emil von Behring for his work in this field.) By 1910, researchers in New York City had developed an antibody serum for pneumonia that would later catch the attention of the state's health commissioner, Thomas Parran Jr. After Parran became surgeon general in 1936, he funded a nationwide pneumonia control program that distributed the serum to people in roughly half of the states.

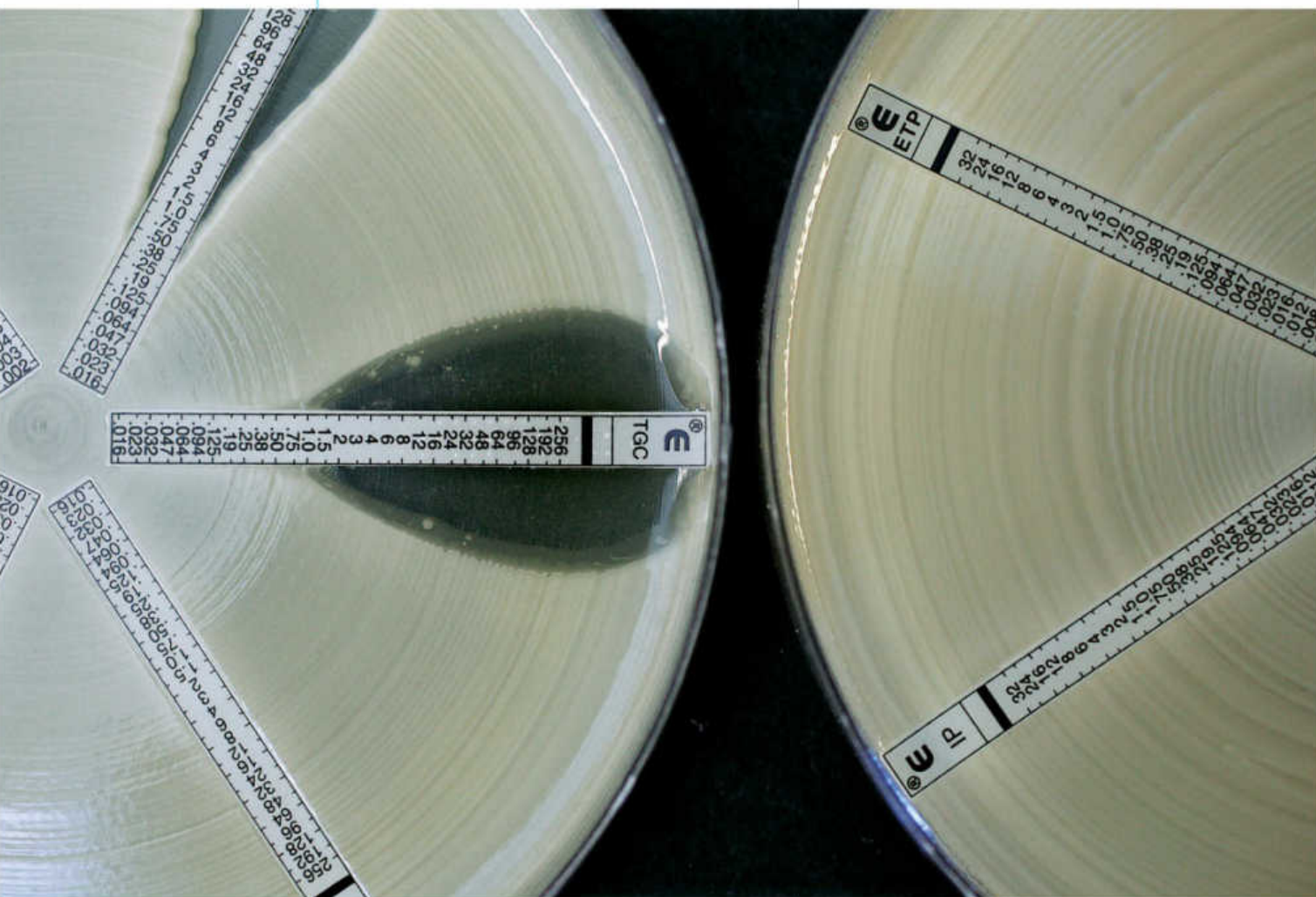
The interest in serums declined throughout the 1930s. Small-scale production of penicillin, the first widely used antibiotic, started in the early 1940s. As the U.S. prepared to enter World War II, the federal government partnered with

the big pharmaceutical companies to expand manufacturing capacity. It was a Manhattan Project-sized effort. By the end of the war, antibiotics had entered the mainstream of American life, revolutionizing the practice of medicine. All of a sudden, doctors could cure patients of diseases that often proved fatal. "They were a magic bullet," says medical historian Dr. Scott Podolsky. "Antibiotics ushered in the golden age of medicine."

It's this powerful legacy that the proponents of immunotherapies are up against. Antibiotics were one of the most important discoveries of the 20th century. Convincing the research community that a 19th-century idea is the future of medicine is a difficult task, but the discovery of the mcr-1 gene may be the warning sign that jump-starts the conversation. ■

DISHING: Scientists can test the resistance of bacteria to antibiotics in the lab. The plate on the left indicates sensitivity to tigecycline, which is used to treat several kinds of infections.

SUZANNE PLUNKETT/REUTERS







DOWNTIME

BOOKS

THEATER

MOVIES

TELEVISION

ART

SPORTS

THE FOUNDING BASTARD

Hamilton, the biggest hit on Broadway, is also blowing up your kid's AP History class

+ **FOUNDERS WITH ATTITUDE:** Miranda, who wrote and stars in the musical, says history is more interesting than anything he could have made up.

HAMILTON IS the Broadway success story of the year, maybe the decade. And it's about to become the hottest item on your 11th grader's Advanced Placement U.S. history syllabus. In classrooms from New York City, where the show packs the Richard Rodgers Theatre nightly, to the West Coast, *Hamilton* is making educators rethink how they teach early U.S. political history—and making students rethink how much they care.

A high school teacher at the Ethical Culture Fieldston School in the Bronx, where he chairs the history department, Jim Cullen has interests ranging from U.S. political history to popular music. (He's probably the only New York City schoolteacher who's published a book on Bruce Springsteen.) So when a group of Fieldston middle schoolers and faculty scored a block of tickets to Lin-Manuel Miranda's hit musical about Alexander Hamilton, Cullen tagged along.

He was startled by how much he loved the show. That was in the spring, before *Hamilton*

debuted on Broadway. Then, in his advisory class in the fall, Cullen noticed his students had caught the bug. They blasted the *Hamilton* cast recording from their phones and devices. "They were singing these songs the way they might sing the latest release from Drake or Adele," Cullen says.

So Cullen did the inevitable: He designed an entire course centered on *Hamilton* (the figure) and *Hamilton* (the show). He'll be teaching *Hamilton: A Musical Inquiry* in the fall. Students will be asked to sift through primary sources like Washington's farewell address and show tunes like "One Last Time" and "Washington on Your Side"; one essay assignment is to pick a song from the cast recording and analyze it. And Cullen isn't the only teacher mining *Hamilton* fever to get 16-year-olds enthused about the profoundly unsexy details of Revolutionary-era nation-building.

For theatergoers, *Hamilton* has been a revelation. The show has drawn universal acclaim—a

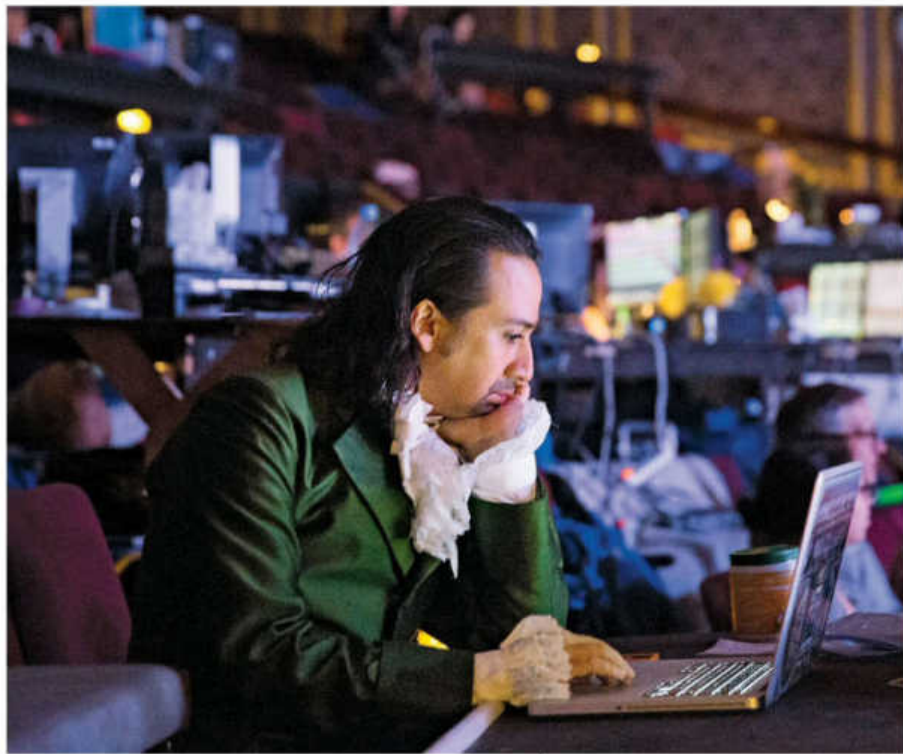
New York Times reviewer stopped just short of urging readers to “mortgage their houses and lease their children” for the chance to see it—and tickets routinely go for \$400 or more on StubHub and eBay. (No wonder, since it’s sold out at least until September.) Celebrities ranging from David Byrne to the late Alan Rickman have been spotted in the audience; President Barack Obama deemed the show “fabulous.”

But for educators, the play’s success is ripe with untapped teaching potential. Yes, it takes creative liberties—the Founding Fathers didn’t really spit rhymes or use phrases like “John Adams shat the bed”—but the story is historically sound. (“The thing about Hamilton’s life,” Miranda tells *Newsweek*, “is the truth is invariably more interesting than anything I could have made up.”) Historian Ron Chernow (whose 2004 biography of the first secretary of the treasury inspired the script) has praised the musical for capturing Hamilton’s ambition and his obsession with controlling his legacy. And along the way, *Hamilton* delves deep into U.S. history-friendly issues like the Constitutional Convention, the Federalist Papers and the bitter Adams vs. Thomas Jefferson presidential election of 1800.

“It brings history to the classroom in such an exciting and engaging way,” says Patrick Sprinkle, who teaches U.S. history and public policy at the NYC Lab School for Collaborative Studies. Sprinkle recently played his students a few tracks from the show, including a back-and-forth between Hamilton and Jefferson. He’s used songs from another Broadway show with a historical spine, *Bloody Bloody Andrew Jackson*, in previous years, and once he schlepped 82 students to see *All the Way*, which starred Bryan Cranston as Lyndon B. Johnson. But *Hamilton* is different, both because it’s fashioned from hip-hop and rap (a genre largely absent on Broadway) and because it casts actors of color to depict, as Miranda put it for the *Hollywood Reporter*, “old, dead white men.”

The show ruminates heavily on Hamilton’s status as a West Indies-born bastard, and the immigration themes have resonated in the year of Donald Trump. “Many of our students are first-generation or second-generation Americans,” Sprinkle says. “The story speaks to them.”

The irony? Miranda, who also plays the title role, wasn’t much of a social studies student in high school. “I basically lived in the English and communications department,” he tells *Newsweek*. He was a first-generation city kid attending Hunter College High School and then Wesleyan University, where he wrote and directed an early draft of the play *In the Heights*, which opened on



+
AP-PLAUSE:
Miranda draws
raves from
students and
teachers, who
say his play is a
big help in their
AP U.S. History
classes.

Broadway in 2008. “It’s been kind of amazing to have my social studies teachers reach out.”

Miranda realized *Hamilton* would be useful for educators years before the show was completed, when he performed what would become its opening number at a White House event in 2009. Since that video surfaced online, “the No. 1 YouTube comment has been, ‘My teacher showed us this in APUSH,’” Miranda says. “I think teachers used just that one clip for the past six years as their intro to Hamilton.”

What he never anticipated was the scope of the #Ham4Ham phenomenon. The playwright has heard from “lots of teachers and educators” about bringing *Hamilton* into their curriculum. “I get videos from 4-year-olds to college students...of them performing songs from this show,” he says. “They’re learning songs they like and weirdly learning U.S. history in the process.”

Over the holidays, Miranda received a text about students raising money to buy their social studies teacher tickets to *Hamilton* for Christmas. “It’s very surreal and beautiful.”

The trend has also made its way to the opposite coast. In Los Angeles, Angelica Davila, an eighth-grade teacher and self-professed musical theater nerd, heard the *Hamilton* songs and immediately began planning an American Revolution unit. Davila works at a small charter school where faculty teach a variety of subjects and 95 percent of students are Hispanic. So she handed out a packet dividing the characters and songs into three categories—political,



military and on whom personal—and had them choose one figure to write a five-page biography. “I teach a lower-income Latino population,” she explains. “They’re really into hip-hop and R&B—especially ’90s hip-hop—and [Miranda] draws a lot from classic hip-hop. There are Biggie and Tupac references everywhere in the show. My kids were really drawn to that.”

The eighth-graders started requesting *Hamilton* as background music even when they weren’t working on those projects. When it came time to choose a song to perform in the school’s annual winter concert, they picked *Hamilton*’s opening number. And though they are young, the kids picked up on the show’s racial inclusivity (Davila made a point of showing YouTube clips and interviews).

“Not only is this the music they love to listen to on their own free time, they’re seeing faces that look like theirs telling American history,” Davila says. “It’s really challenging for them to relate to American history when their stories are not being told. With this musical and with the casting of the show in particular, they finally have a chance to see themselves in our country’s history for the first time.”

The material has been embraced by younger kids as well. “As soon as I saw it, I knew I had to find a way to use it in class,” Molly O’Steen, a fourth-grade teacher at Rodeph Sholom School in Manhattan, tells *Newsweek*. Though some of the songs aren’t age-appropriate, the kids have latched onto a playful series of songs sung by King George III. “[The class] is a pretty homogenous demographic of 9-year-old Jewish kids,” O’Steen says. “I wasn’t sure how into musicals they were. Or how into rap music. But they really love the music of it.”

Most students, thwarted by distance or prohibitive ticket prices, won’t wind up seeing *Hamilton* on Broadway. There’ll be a movie someday, but not too soon (there are no plans to film the current cast, Miranda says, contrary to a widely spread misquote). A book containing the script and photos from the show is being published in the spring, but that’s hardly the same. Fortunately, educators and benefactors have found ways to bring some lower-income students to see the show in person.

The Rockefeller Foundation in October joined forces with the show’s producers to commit \$1.5 million to subsidize tickets for 20,000 New York City students. (The Gilder Lehrman Institute of American History has been involved, creating



a Hamilton-related curriculum as an online resource.) And a theater teacher at the Democracy Prep Charter High School in Harlem took a group of more than 100 students to see *Hamilton* during its off-Broadway run last spring.

That outing was courtesy of a Theatre Development Fund program, says the teacher, Lisa Kowalski. The students were later assigned to imagine writing their own obituaries, to consider their legacies, as *Hamilton* does throughout the show. Some of the kids stayed after the show to meet Miranda. (“They’re obsessed, as I am, with his work,” Kowalski says.) One African-American student reportedly told principal Natasha Trivers, “*Hamilton* made me realize that this is our country too.”

This show has done more than any work of pop culture to bring Alexander Hamilton out of the ivory tower and into the popular consciousness. It’s shown how the founder helped shape

“THERE ARE BIGGIE AND TUPAC REFERENCES EVERYWHERE IN THE SHOW. MY KIDS WERE REALLY DRAWN TO THAT.”

and articulate the country’s ideals. And regardless of whether or not it helps kids understand the Federalist Papers, Miranda is happy to be bringing theater to the 11th-grade masses. “The hope is always to expose theater to new audiences,” he says. “It’s the oldest thing we got going. If the robots win, if *Terminator 2* comes true, if the robots take over, we’re still going to tell each other stories in the dark.

“There’s going to be kids who see this show, [and] this will be their first Broadway show,” he adds. “That’s just what musicals are going to look like for them. *Of course* it’s a cast full of actors of color. *Of course* it’s music that uses hip-hop and contemporary music but also tells a story. That’s just going to be their default experience of what a musical is. That just blows my mind.” ■



YOU'RE 100% WRONG ABOUT

Football

PUT THE SPORT BACK IN THE OVEN
UNTIL IT'S DONE COOKING

THOSE WHO LOVE football—who *really* love it, who will actually watch every down of Super Bowl 50 and only dare to restock on nachos during the commercials—will defend it to their deaths. Yes, they will acknowledge, there's that pesky public health concern about concussions and chronic traumatic encephalopathy. And yes, the league's labor structure forces most of the players to risk their lives on the field without guaranteed contracts. But those are problems that can be ironed out, with, perhaps, a stronger players' union or rule changes to better protect the brain cases of receivers going over the middle. They are worth solving, these guardians of the shield will say, because of the beauty of the game.

They will point to the

intricacy and military precision of American football: the 500-page playbooks, the chess matches of the offensive and defensive coordinators, the precision of the route running by the wide receivers and the strategic aptitude of the quarterbacks and middle linebackers.

But, really, football is an overwrought hodgepodge of rules, rituals and rationalizations for barely contained mayhem. Subjectivity and second-guessing are rampant: Referees have to pick out the spot of the ball—down to the inch—by untangling 2,000 pounds of human meat. Pass interference calls often require referees to be mind readers—was the defensive back looking at the ball in the air or was he watching the receiver's eyes? Until this past

season, ruling on a completed pass necessitated determining whether a player made something called “a football move” before dropping the ball. That was so vague the NFL changed the rule to state that a player must “clearly establish himself as a runner”—which pundits ripped apart this season as equally inadequate and further proof that football doesn't actually have rules—it has a mostly ambiguous set of guidelines open to the fickle interpretations of a few middle-aged men.

Like most patriotic Americans, I will spend Super Bowl Sunday watching the game, and there is no denying the pleasures of all that pomp. But I've already begun to move on to spectator sports that are not endless exercises in dreary caprice. There's

a reason the rules that govern international cricket are barely different from the original version written in 1787; there's a reason that basketball has in the past few years become the second-most popular sport in the world, and that the first, soccer, is called “the beautiful game.”

Technology may save football from itself. Perhaps a concussion-free helmet will lower the health risks faced by players, and tracking devices embedded in the ball will end the absurd ritual of “bringing out the chains.” But there's another possibility that fanatics might need to consider: Football is inherently, and fatally, flawed, and it's time for fans to punt.

BY

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HEY, HO, LET'S GO!

Be warned: HBO's deep dive into the '70s music business will have you yearning for vinyl and running from polyester

THE FEATURE-LENGTH pilot for *Vinyl*, HBO's new music industry drama set in 1973, is directed by Martin Scorsese and, not surprisingly, fueled by violence, drugs and rock 'n' roll. The climax is both shocking and surreal: As the coked-up, stressed-out record executive Richie Finestra (Bobby Cannavale) grooves to a New York Dolls concert, the walls of the Mercer Arts Center start cracking open. But what seems like a character's psychotic break becomes a living nightmare when the building collapses on top of him.

The scene is intense, yet the notion of a building just giving way seems outlandish and unrealistic...until a Google search reveals that the Broadway Central Hotel, which housed the arts center, did indeed crash down that August.

"It was a perfect metaphor for Richie's state of mind," says *Vinyl* showrunner Terence Winter. An earlier draft just had Richie listening to the music, but Winter says "there was something missing" until he uncovered this bit of New York history that comes to symbolize a death and rebirth for the protagonist.

The scene is also a perfect metaphor for the show, which debuts February 14. It fuses a rigorous devotion to accuracy with what Winter calls a "Hey, it's rock and roll!" willingness to break rules to tell a dramatic story. For instance, the New York Dolls played that club, but not that night. The artistic license is aided, Winter adds, by Finestra's voice-over acknowledging he's an unreliable nar-



rator: "This is my story, clouded by lost brain cells, self-aggrandizement and maybe a little bullshit."

Vinyl is the brainchild of executive producer Mick Jagger and was inspired by his day job as lead singer of the Rolling Stones. "I thought 1973

BY
STUART MILLER

a perfect moment in time,” Jagger says. “New York was very dangerous, gritty, but also very exciting musically. It is a sweet spot for early proto-punk, rock ’n’ roll, R&B, and disco was on the brink of being discovered.”

Scorsese grew up on the mean streets of New York and in 1973 emerged as the director who captured the city’s seediness and decay with a rough vibrancy and memorable soundtrack. (His *Mean Streets*, released that year, featured songs by the Shirelles, Eric Clapton and the Stones.)

Winter was just a 13-year-old with the finely feathered hairdo of that era’s top teen heartthrob, David Cassidy. Living in deep Brooklyn, he would sneak into Manhattan with friends to wander around Times Square and Greenwich Village. “There was a palpable sense that anything could happen at any time,” he recalls. “There was a lot of crime and violence, drug dealers and prostitutes. It was intimidating but exhilarating.”

Scorsese set the tone in *Vinyl*’s quest for authenticity. Location manager Kip Myers used many historic buildings, shooting at the Brill Building (a renowned home to the music industry), the Chelsea and Electric Lady Studios, which guitar shaman Jimi Hendrix built. *Vinyl* also recorded its original music there. For a scene in which Finestra stumbles upon the gestation of hip-hop, Scorsese asked for the exact high-rise where DJ Kool Herc once held block parties, but it was right off the Cross Bronx Expressway, which created noise problems.

Unfortunately, Myers says, the scene in which the Mercer Arts Center vanishes in a cloud of dust is also a “metaphor for the fast pace of change in the city.” The Brill Building has had its exterior renovated with electronic signage. The Chelsea has been remade into a boutique hotel. Even the famous Ziegfeld Theatre, where the *Vinyl* premiere was held, just showed its last movie. And in a world where even Manhattan’s Bowery now has a Whole Foods, the crew had to add trash to dirty up all the downtown street exteriors.

Series costume designer John Dunn says Finestra is on the prowl for new sounds, so that is reflected in his clothes. “There was some very cool clothing then—that era was the birth of interest in vintage clothing, a counterculture reaction to Nixon and the rise of plastics,” he adds. “But there were also some definite missteps in the direction of polyester.”

The biggest casting challenge was finding people to play the music icons. An actor portraying Led Zeppelin’s Robert Plant shows up in the pilot, and later episodes feature Lou Reed, Karen Carpenter, Otis Redding and Alice Cooper. “You have to find a good physical match,

someone who can move and sound like them but also have their presence,” says Winter.

Vinyl must not only look right but also sound right. “It’s not a conventional narrative,” Scorsese says. “It’s almost like you’re listening to Richie’s private soundtrack, the one he’s hearing in his head, whether he wants to or not.”

Randall Poster, one of *Vinyl*’s music supervisors, says after doing his research for *Boardwalk Empire* he felt like the expert on 1920s music. For 1973, though, “everyone has an opinion; they have their own sacred songs with personal associations.” Poster says that to choose “key songs in the evolution of rock ’n’ roll” he consulted people like Lenny Kaye (Patti Smith’s guitarist), Seymour Stein (co-founder of Sire Records) and David Johansen (of the New York Dolls).

Poster even made sure all recordings featured period instruments and studio equipment, but wants the series to be “not simply a nostalgia exercise but a place for music discovery.” He searched for tunes “that would still catch the ear of contem-

“THERE WAS A LOT OF CRIME AND VIOLENCE, DRUG DEALERS AND PROSTITUTES. IT WAS INTIMIDATING BUT EXHILARATING.”

porary audiences,” and became excited about the chance to “dust off undervalued pieces” by artists such as Rosco Gordon, Bobby “Blue” Bland, Lulu, Mickey Finn and the Sonics.

But not every song could or should be a classic or an undiscovered gem. Winter, who bought his first album in 1973 (*Goat’s Head Soup* by the Stones), credits Poster with choosing bands like Slade, which churned out the cheesy glam rock Finestra and the punks rebel against.

Winter adds that they are still searching for right way to incorporate the biggest band in the world in 1973. They have not cast anyone to play Stones guitarist Keith Richards or Mick Jagger (whose son James plays the lead singer of a fictional proto-punk band, the Nasty Bits). But a little tune called “Under My Thumb” does find its way into the second episode. “It’s tricky,” Winter says. “It feels a little incestuous. But to ignore the Rolling Stones on this show would be crazy.”

SINGLES GUY: Canavale’s character is the eyes and, more important, ears of *Vinyl*, the man chasing hits and the people who make them through the streets of New York City.

MACALL B. POLAY/HBO



REWIND

25
YEARS



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SEX THERAPIST RUTH WESTHEIMER, AKA DR. RUTH, INSTRUCTS ISRAELIS ON "HOW TO HAVE GOOD SEX IN AN AIR-RAID SHELTER"

“Do touch. Do talk about it. But do not do it until after the sirens.”